Workstation

English

Operating Manual

CELSIUS M / V / R

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... any technical problems or other questions you would like to discuss?

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CELSIUS M / V / R

Operating Manual

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Preparing for use

Operation

Troubleshooting and tips

System expansions

Technical data

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Your CELSIUS...

... is available with various configuration levels with different hardware and software. You can incorporate operable drives (for example DVD drive) as well as other boards.

This manual tells you how to put your device into operation and how to operate it in daily use. This manual applies for all configuration levels. Depending on the configuration level chosen some of the hardware components described may not be available on your PC. Please observe the notes on your operating system.

Depending on the configuration selected, the operating system is preinstalled on your hard disk (e.g. Microsoft Windows Vista).

Your device has a number of security features to ensure that no unauthorised persons can access your data. The security functions in the *BIOS Setup* also allow you to protect your data by means of passwords. In addition, systems with a SmartCard reader offer additional protection.

Under certain operating systems, *DeskUpdate* allows you to quickly and easily install the latest drivers and operating system upgrades with just a few mouse clicks. *DeskUpdate* is contained on the "Drivers & Utilities" DVD.

Further information on this device is provided:

- in the poster "Getting Started"
- in the "Safety" manual
- in the "Warranty" manual
- in the operating manual for the monitor
- in the manual for the mainboard
- in your operating system documentation
- in the information files (e.g. **.PDF*, **.HTML*, **.DOC*, **.CHM*, **.TXT*, **.HLP*)

You will find an electronic version of some of the listed manuals on the "User Documentation" or "Drivers & Utilities" DVD.

You can access and view the required information using the *Acrobat Reader* program, which is also on the DVD. If necessary, you can also make a print version of the manual.

Notational conventions

The following symbols are used in this manual:

indicates information which is important for your health or for preventing physical damage.

indicates important information which is required to use the system properly.

► Texts which follow this symbol describe activities that must be performed in the order shown.

This font indicates programme names, commands, or menu items.

"Quotation marks" indicate names of chapters, data carriers, and terms that are being emphasised.

Important notes

In this chapter you will find information regarding safety which it is essential to take note of when working with your device.

Safety notes

Pay attention to the information provided in the "Safety" manual and in the following safety notes.

During installation and before operating the device, please observe the instructions on environmental conditions in the "Technical data" chapter as well as the instructions in the "Preparing for use" chapter.

The ON/OFF switch does not disconnect the device from the mains voltage. To completely disconnect the mains voltage, remove the power plug from the power socket.

The lithium battery on the mainboard should only be replaced in accordance with the instructions in the "Extensions to the mainboard" - "Battery: lithium battery: changing" chapter.

Caution, components in the system can get very hot.

Transporting the device

Transport all parts separately in their original packaging or in a packaging which protects them from knocks and jolts, to the new site. Do not unpack them until all transportation manoeuvres are completed.

Cleaning the device

Turn off all power and equipment switches and disconnect the power plug from the mains outlet.

Do not clean any interior parts yourself, leave this job to a service technician.

Do not use any cleaning agents that contain abrasives or may corrode plastic.

Ensure that no liquid enters the system.

Wipe the casing with a dry cloth. If particularly dirty, use a cloth that has been moistened in mild domestic detergent and then carefully wrung out. Use disinfectant wipes to clean the keyboard and the mouse.

Energy saving, disposal and recycling

Further information can be found on the "User Documentation" or "Drivers & Utilities" DVD provided with your computer.

CE mark

CE mark for devices without radio component

The shipped version of this device complies with the requirements of the EC Guidelines 2004/108/EC "Electromagnetic compatibility" and 2006/95/EC "Low voltage directive".

FCC Class B Compliance Statement

The following statement applies to the products covered in this manual, unless otherwise specified herein. The statement for other products will appear in the accompanying documentation.

NOTE:

This equipment has been tested and found to comply with the limits for a "Class B" digital device, pursuant to Part 15 of the FCC rules and meets all requirements of the Canadian Interference-Causing Equipment Standard ICES-003 for digital apparatus. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in strict accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Fujitsu Siemens Computers GmbH is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Fujitsu Siemens Computers GmbH. The correction of interferences caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

The use of shielded I/O cables is required when connecting this equipment to any and all optional peripheral or host devices. Failure to do so may violate FCC and ICES rules.

Preparing for use

Please observe the safety information in the "Important notes" chapter.

Unpacking and checking the delivery

It is recommended not to throw away the original packaging material! It may be required for reshipment at some later date.

► Unpack all the individual parts.

► Check the delivery for damage incurred during transportation.

► Check whether the delivery agrees with the details in the delivery note.

Should you discover that the delivery does not correspond to the delivery note, notify your local sales outlet immediately.

Steps for initial setup

Only a few steps are necessary to put your new device into operation for the first time:

- Select location for device and set up device
- Connect the monitor, mouse and keyboard
- Check the voltage at the mains outlet and connect the device to an electrical outlet
- Switching the device on

You will learn more about the individual steps in the following sections.

External devices

If you have received other devices in addition to your device (e.g. a printer or a modem), do not connect these until after the initial installation. The following sections contain a description of how to connect these external devices.

Drives and boards

If you have received drives or boards with your device, please do not install them until after first-time setup. How to install drives and boards is described in the "**Fehler! Kein gültiges Resultat für Tabelle.**" chapter.

Setting up the device

When installing your device, give consideration to the safety notes in the "Safety" manual.

The device should only be set up in the intended orientation, i.e. in a vertical position.

We recommend that you place your device on a surface with good anti-slip qualities. In view of the multitude of different finishes and varnishes used on furniture, it is possible that the feet of the device will mark the surface they stand on.

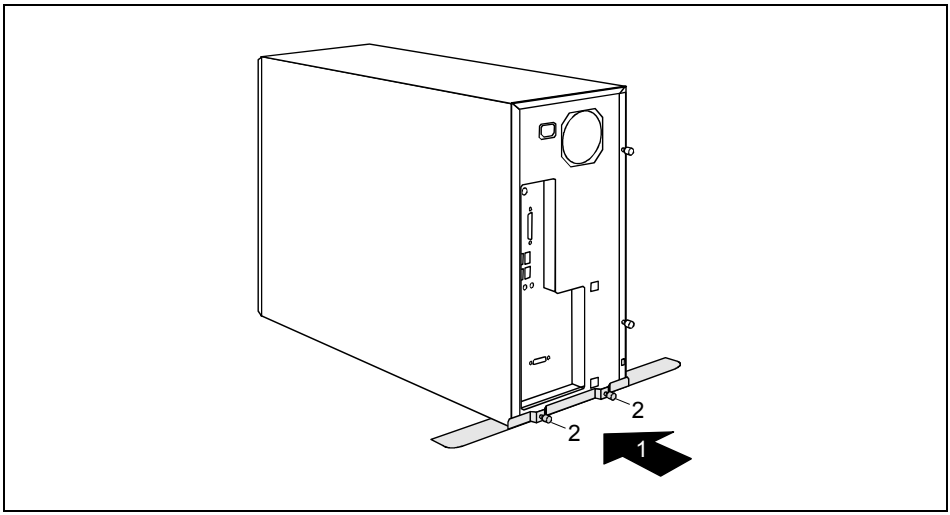
Do not expose the device to extreme environmental conditions (see "Technical data"). Protect the device from dust, humidity, and heat.

Make sure that the device is adequately ventilated. In order to avoid overheating, do not cover the ventilation area of the monitor or the device.

Depending on the location of your device, bothersome vibrations and noises may occur. To prevent this, a distance of at least 3 mm should be maintained from other devices on casing sides without ventilation surfaces. In addition, we recommend placing the device on support feet, as these buffer vibrations.

Screwing on the base foot (CELSIUS V, CELSIUS R6xx)

To ensure a secure stance, the base foot must be screwed on prior to start-up.



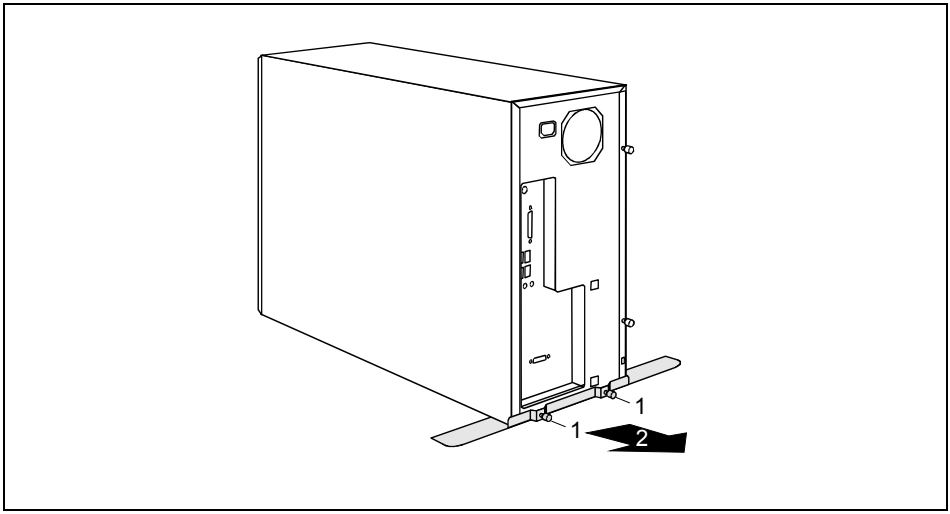
► Lift the device slightly at the rear.

► Push the base foot under the device in the direction of the arrow (1).

Make sure that the screw holes for the screws are aligned.

► Screw on the base foot with the knurled screws (2).

Unscrewing the base foot (CELSIUS V, CELSIUS R6xx)



- ► Unscrew the knurled screws (1).
- ► Pull off the base foot in the direction of the arrow (2).

Connect the monitor, mouse and keyboard

The ports for the monitor, mouse, and keyboard are on the front and rear of the device.

Keyboard port, purple

USB port, black

Monitor port, blue

PS/2 mouse port, green

Connecting monitor

- ► Follow the instructions contained in the monitor manual to prepare the monitor for operation (e.g. connecting cables).
- ► Plug the data cable into the monitor port of the device.
- ► Plug the monitor power cable into the grounded mains outlet.

Connecting the mouse

Depending on the equipment level selected, your device will be supplied with a PS/2 mouse or a USB mouse.

PS/2 mouse: connecting

► Connect the PS/2 mouse to the PS/2 mouse port of the device.

Connecting USB mouse

► Connect the USB mouse to the USB port of the device.

i If you do not attach a mouse at the PS/2 mouse port, you can disable the mouse controller in the *BIOS Setup* in order to free the IRQ12 for a different application.

Keyboard, connecting

Depending on the equipment level selected, your device will be supplied with a standard keyboard or a USB keyboard.

Connecting standard keyboard

Use the supplied keyboard cable only.

► Plug the rectangular connector of the keyboard cable into the rectangular socket on the underside or on the rear of the keyboard.

► Plug the round plug of the keyboard cable into the keyboard port on the device.

Connecting USB keyboard

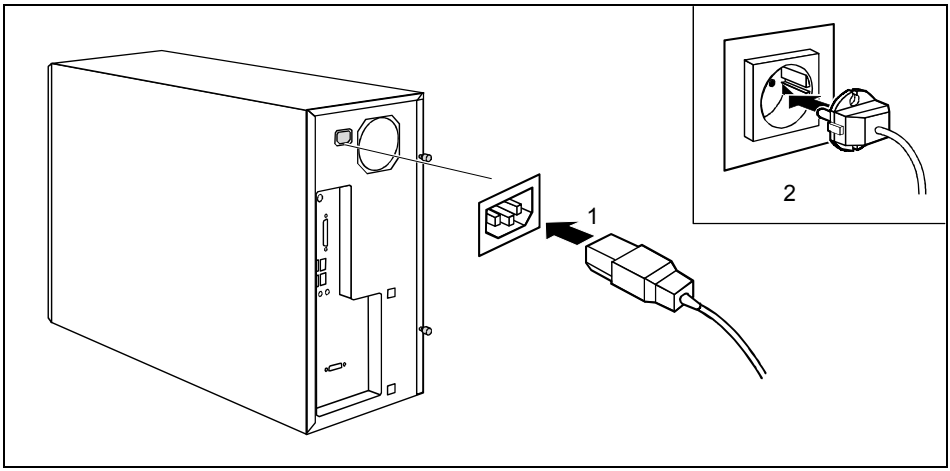
Use the supplied keyboard cable only.

► Plug the rectangular connector of the keyboard cable into the socket on the underside or on the rear of the keyboard.

► Insert the flat rectangular USB plug of the keyboard cable into a USB port of the device.

Connecting the device to the mains voltage

The device is fitted with a wide voltage range power supply. This means you do not need to set the nominal voltage manually for these devices. Therefore there is no switch available for the voltage setting.



- ► Connect the power cable to the device (1).
- ► Plug the power plug into a grounded mains outlet (2).

Switching on for the first time: installing the software

If the device is integrated into a network, the user and server details as well as the network protocol are required during the software installation. Contact your network administrator if you have any questions about these settings.

When you switch on the device for the first time, the supplied software is installed and configured. Plan a reasonable amount of time for this, as this process must not be interrupted.

Once the installation has been started the device must not be switched off, unless the installation has been completed.

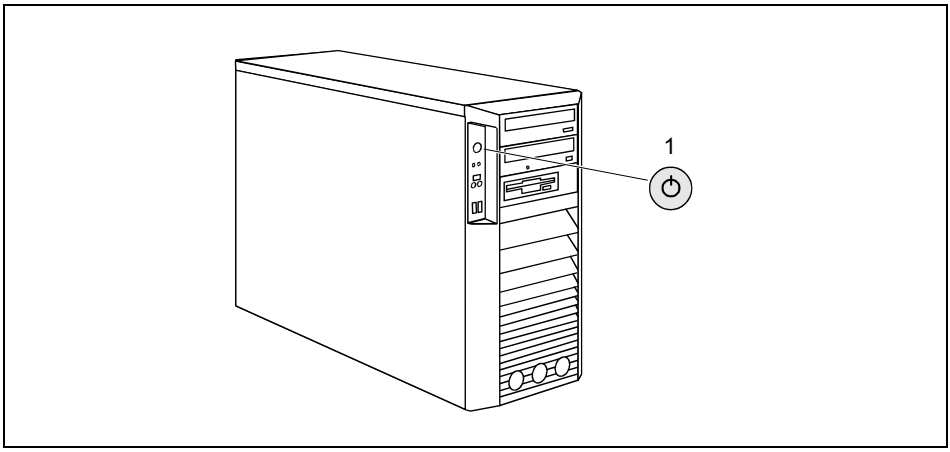
During installation, the device may only be rebooted when you are requested to do so!

The installation will otherwise not be carried out correctly and the contents of the hard disk must be completely restored.

You may need the licence number for Windows during the installation. The licence number is located on a sticker on your device.

Switching on monitor and device

► Switch the monitor on (see the operating manual for the monitor).



► Press the ON/OFF switch (1) on the front of the device.

The power-on indicator lights green and the device is started.

Installing the software

- ► During installation, follow the instructions on screen.
- ► Consult the operating system manual if there is anything unclear about the requested input data.

You will find further information about the system, drivers, utilities, and updates on the "Drivers & Utilities" DVD supplied.

External devices, connecting

Read the documentation on the external device before connecting it.

With the exception of USB devices, always remove all power plugs before connecting external devices!

Do not connect or disconnect cables during a thunderstorm.

Always take hold of the actual plug. Never unplug a cable by pulling the cable itself.

Connect and disconnect the cables in the order described below.

Connecting cables

- ► Turn off all power and equipment switches.
- ► Remove all power plugs from the grounded mains outlets.
- ► Plug all cables into the device and peripherals. You must observe the information provided in the "Important notes" chapter.
- ► Plug all data communication cables into the utility sockets.
- ► Plug all power cables into the grounded mains outlets.

Disconnecting cables

- ► Turn off all power and equipment switches.
- ► Remove all power plugs from the grounded mains outlets.
- ► Unplug all data communication cables from the utility sockets.
- ► Unplug all cables from the device and peripherals.

USB devices are hot-pluggable. This means you can connect and disconnect USB cables while your device is switched on.

Additional information can be found in the "Connecting external devices to the USB ports" section and in the documentation for the USB devices.

Ports provided by the device

The connections are located on the front and back of the device. The ports available on your device depend on the configuration level you have selected. The standard ports are marked with the symbols shown below (or similar). Detailed information on the location of the connections is provided in the manual for the mainboard.

Keyboard port, purple

Parallel port/Printer, burgundy

Serial port 1, teal or turquoise

Serial port 2, teal or turquoise

Monitor port, blue

Microphone jack (mono), pink

Headphones port, orange or light green

Audio input (Line in), light blue

Audio output (Line out), light green

SCSI connection

USB - Universal Serial Bus, black

LAN port

PS/2 mouse port, green

FireWire™, grey

Some of the connected devices require special drivers (see the documentation for the connected device).

Connecting external devices to the parallel or serial port

External devices can be connected to the parallel or serial port (e.g. a printer or a modem).

► Connect the data cable to the external device.

► Depending on the device, connect the data cable to the parallel port or the serial port.

For an exact description of how to connect external devices to the corresponding port, please see the external device documentation.

Port settings

You can change the port settings (e.g. address, interrupt) in the *BIOS Setup*.

Device drivers

The devices connected to the parallel or serial port require drivers. Your operating system already includes many drivers. If the required drive is missing, install it. Current drivers are usually available on the Internet or will be supplied on a data carrier.

Connecting external devices to the USB ports

You can connect a wide range of external devices to the USB ports (e.g. printer, scanner, modem or keyboard).

USB devices are hot-pluggable. This means you can connect and disconnect devices while your operating system is running.

Additional information can be found in the documentation for the USB devices.

► Connect the data cable to the external device.

► Connect the data cable to a USB port .

Device drivers

The devices you connect to the USB ports usually require no driver of their own, as the required software is already included in the operating system. However, if the USB device requires its own software, please install it from the data carrier provided with the USB device.

To ensure USB 2.0, only a 3 m long cable may be used from the front USB port to the USB peripheral device.

Connecting external devices to the FireWire port

External devices such as digital audio/video devices or other high-speed devices can be connected to the FireWire port. The FireWire port operates at a speed of up to 400 Mbit per second.

FireWire devices are hot-pluggable. Therefore, the cables of FireWire devices can be connected and disconnected with the system switched on.

Additional information is provided in the documentation of the FireWire devices.

► Connect this data cable of the external devices to the FireWire port of the device.

► Plug the power cable of the external device into a grounded mains outlet.

Operation

Switching the device on

► If necessary, switch the monitor on (see the operating manual for the monitor).

► Press the ON/OFF switch on the front of the device.

The power-on indicator lights green and the device is started.

Switching off the device

► Shut down the operating system properly. In Windows: via the *Start* menu and the *Exit function*.

► If the operating system does not automatically switch the device into an energy-saving mode or switch it off, press the ON/OFF switch.

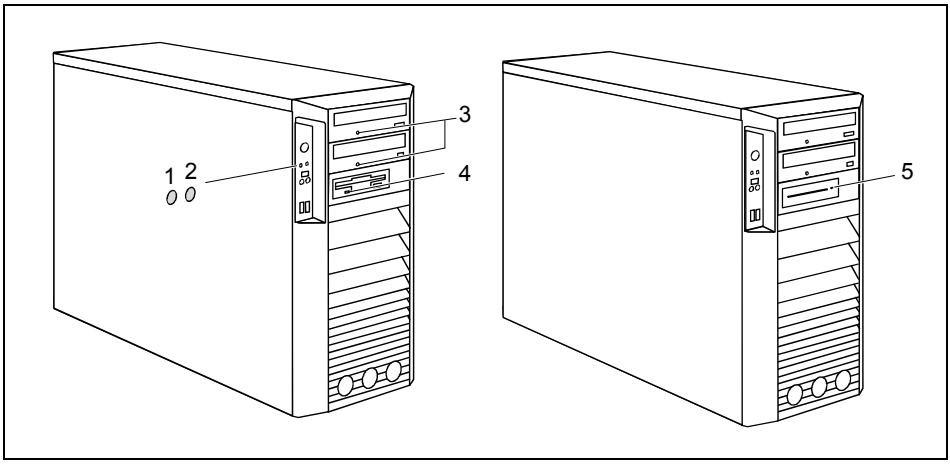
The device then consumes a minimum amount of energy.

The ON/OFF switch does not disconnect the device from the mains voltage. To completely disconnect the mains voltage, remove the power plug from the power socket.

► If necessary, switch the monitor off (see the operating manual for the monitor).

Indicators provided by the device

The indicators are on the front of the casing. Which indicators are available on your device depends on the configuration level you have selected.



1 = Hard disk indicator
2 = Power-on indicator
3 = Drive indicator, e.g. DVD
4 = Floppy disk indicator (optional)
5 = SmartCard reader indicator (optional)

Hard disk indicator

The indicator lights up when the hard disk drive of the device is accessed.

Power-on indicator

- The indicator lights up green:
  The device is switched on.

  The display can also light up green if the device has been switched off by holding the ON/OFF switch (see "Troubleshooting and tips").

- The indicator lights up orange:
  The device is ready-to-operate or in energy-saving mode. After being switched on with the power button, the device switches on or returns to the state it was in before the energy-saving mode.

  In the energy-saving mode the device may not be disconnected from the mains supply, as this may otherwise result in data loss.

- The indicator does not light up:
  The device is switched off.

Drive indicator, e.g. DVD

The indicator lights up when the CD-ROM or DVD drive is accessed. You may only remove the DVD when the indicator is dark.

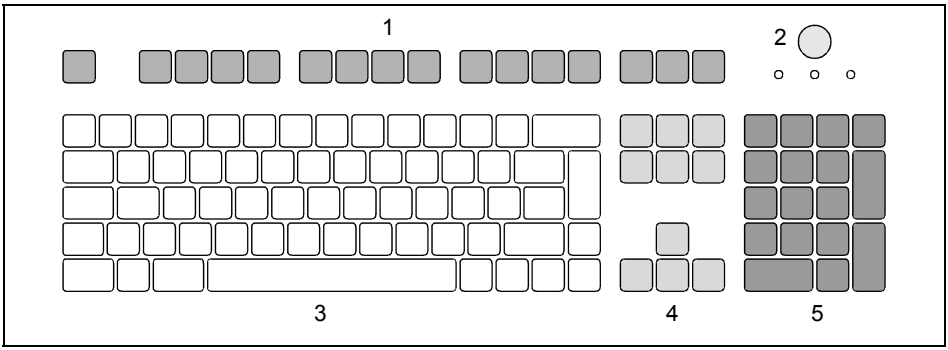
Floppy disk indicator (optional)

The indicator lights up when the floppy disk drive of the device is accessed. You may only remove the floppy disk when the indicator is unlit.

SmartCard reader indicator (optional)

The indicator lights up when the SmartCard reader is ready-to-use.
The indicator flashes when the SmartCard is accessed.

Keyboard



1 = Function keys
2 = Power button (optional)
3 = Alphanumeric keypad
4 = Cursor keys
5 = Numeric keypad (calculator keypad)

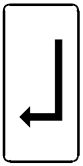
The illustrated keyboard is an example and may differ from the model you use.

Important keys and key combinations

The description of the following keys and key combinations applies to Microsoft operating systems. Details of other keys and key combinations can be found in the documentation of the relevant application programme.

ON/OFF switch (optional)
Depending on the setting in the *BIOS Setup*, the system can be switched on, off, or on and off with this button. Some operating systems allow you to configure additional functions of the ON/OFF switch in the Control Panel.

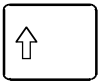
With some keyboards the ON/OFF switch can only be used with an ACPI (Advanced Configuration and Power Management Interface). Otherwise the key is inoperative. The mainboard must support this function.



Enter key
confirms the marked selection. The enter key is also referred to as the "Return" key.

Start key
calls up the Windows *Start* menu.

Menu key
calls up the menu for the marked item (Windows).



Shift key
enables upper-case letters and the upper key symbols to be used.

Alt Gr (e.g. German keyboard)
produces a character shown on the right-hand side of a key (e.g. the character @ on the key **Q**).

Num key
Switches the numeric key pad between number mode ("Num" indicator lights up) and editing mode ("Num" indicator does not light up).
When the Num Lock indicator is lit the digit and comma keys are active.
When the Num Lock indicator is not lit the cursor control functions are active in the Numeric keypad.

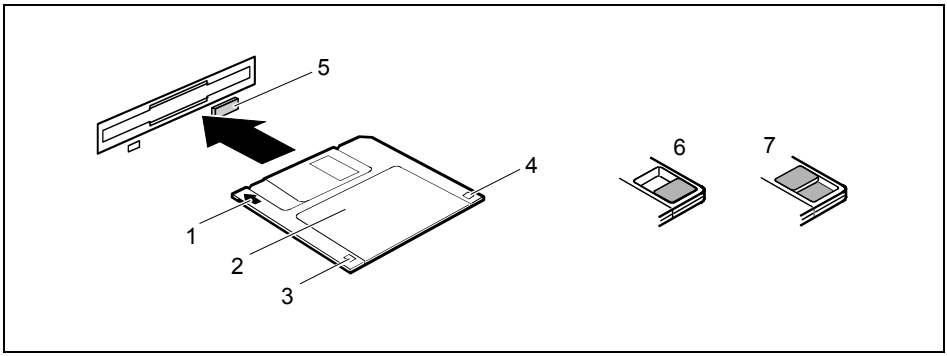
Ctrl key
Starts key combination actions. The **Ctrl** (Strg) key is also called "Control" or "Control key".

Warm boot
restarts your device. Press simultaneously the keys **Ctrl** (Strg), **Alt** + **Del** (Entf). Under some operating systems the Task Manager appears first. Then you must press all three keys again to re-boot.

Working with floppy disks

Follow the instructions supplied by the vendor of the floppy disks.

Do not clean the floppy disk drive with cleaning floppy disks. Any attempt would destroy the read/write head in the disk drive within 20 seconds.



3 = Write protection tab for a 1.44 MB floppy disk
4 = Identification of a 1.44 MB floppy disk or write protect switch on a 120 MB floppy disk

To insert a floppy disk

► Push the floppy disk into the drive in the insertion direction (1) until it engages. The label should be facing upward.

To remove a floppy disk

► Push the eject button (5).

Protect the floppy disk against being overwritten or erased

► Slide the write-protect slider (3) into position (6). The hole is now visible.

The disk is write-protected.

Deactivate write protection

► Slide the write-protect slider (3) into position (7). The hole is now covered.

The disk is not write-protected.

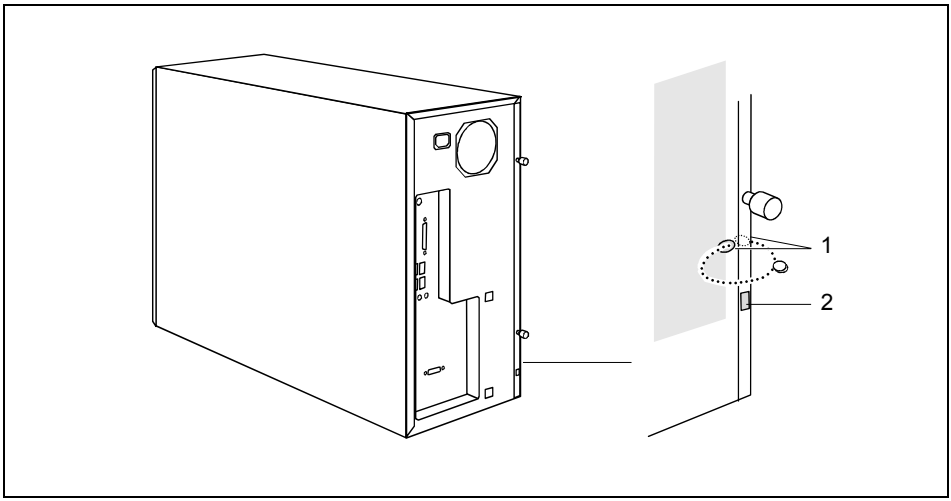
Settings in BIOS Setup

In *BIOS Setup* you can set the system functions and the hardware configuration of the device. When the PC is delivered, the default entries are valid (see "BIOS Setup" manual or manual for the mainboard). You can customise these settings to your requirements in the *BIOS Setup*.

Property and data protection

Software functions and mechanical locking offer a broad range of functions for protecting your device and your personal data from unauthorised access. You can also combine these functions.

Anti-theft protection and lead-sealing



1 = Holes for padlock

2 = Device for "Kensington Lock"

Anti-theft protection

You can protect your device from theft.

- with the Kensington Lock device (2) and with a Kensington MicroSaver. Consult the manual for your Kensington Lock.
- with the holes (1), a padlock and a chain, which you have connected to a fixed object beforehand.

Lead-sealing

To prevent unauthorised persons from opening the casing, the casing can be sealed. To do this, feed the sealing chain through the holes (1) and seal the chain with the lead seal.

BIOS setup security functions

The *Security* menu in *BIOS Setup* offers you various options for protecting your personal data against unauthorised access, e.g.:

- Preventing unauthorised access to the *BIOS Setup.*
- Preventing unauthorised system access
- Preventing system booting from the diskette drive
- Virus warnings, activating
- BIOS: Protecting BIOS from overwriting
- Protecting the device from being switched on by an external device

You can also combine these functions.

You will find a detailed description of the *Security* menus and how to assign passwords in the manual for the mainboard or in the "BIOS Setup" manual.

Access authorisation via SmartCard (optional)

In systems equipped with a SmartCard reader, access can be restricted to those users who have a corresponding SmartCard.

Access protection with SystemLock (optional)

With *SystemLock* you can protect your system from unauthorised booting. Then a system can only be booted when the user inserts a valid SmartCard in the SmartCard reader and enters his/her personal code number (PIN). To use *SystemLock* you require the following components:

- External or internal SmartCard reader
- *SystemLock* installed (see "BIOS Setup" manual)
- SmartCard

SystemLock controls access to your device. When a SmartCard is initialised, permissions are assigned for system access (system, setup, system+setup, admin). You can configure several SmartCards for one system and initialise them with different permissions. In addition you can protect access to your hard disk.

In this way users can be divided into user groups. Users of a user group use SmartCards with the same permissions.

More information on SystemLock

If you also want to use other security software in addition to *SystemLock* (e.g. *SMARTY*), please read the documentation on your security software beforehand.

SystemLock permissions

You can initialise a SmartCard with one of the following permissions:

System	The system starts following entry of the user PIN. You can change the user PIN.
Setup	You can open and change the *BIOS Setup* and change the user PIN.
System+Setup	The system starts following entry of the user PIN. You can open and change the *BIOS Setup* and change the user PIN.
Admin	The system starts following entry of the user PIN. You can change the user PIN an the administrator PIN, unlock locked SmartCards, open and change the *BIOS Setup* and generate additional SmartCards for this system.

For instructions on how to install and operate *SystemLock*, and how to initialise SmartCards, see the "BIOS Setup" manual.

SmartCard reader: operating

- Operating the internal SmartCard reader

Depending on the configuration level, the device can be switched on by inserting your SmartCard. If the SmartCard reader has been released, the SmartCard reader indicator on the front of the device lights green.

- Operating the external SmartCard reader

After the device is switched on, you will be prompted to insert your SmartCard.

Troubleshooting and tips

Refer to the safety notes in the "Safety" manual and in the "Preparing for use" chapter when connecting or disconnecting cables.

If a fault occurs, try to correct it as described in the following places:

- in this chapter
- in the documentation of the connected devices
- in the help systems of the software used
- in the documentation of your operating system

If you fail to correct the problem, proceed as follows:

► Switch the device off.

► Make a note of the steps and the circumstances that led to the fault.

► Make a note of any error messages displayed.

► Note the ID number of your device. The Ident-No. can be found on the type rating plate on the back of the casing.

► Contact your sales outlet or our customer service centre.

Troubleshooting

Power-on indicator remains unlit after you have switched on your device

Cause	Troubleshooting
The mains voltage supply is faulty.	► Check whether the power cable is plugged properly into the device and a grounded mains outlet. ► Switch the device on.
Internal power supply overloaded.	► Pull the power plug of the device out of the mains outlet. ► Wait for a moment. ► Plug the power plug into a properly grounded mains outlet again. ► Switch the device on.

The device cannot be switched off with the ON/OFF switch

Cause	Troubleshooting
The device has not been switched on with the ON/OFF switch.	► Press the ON/OFF switch again.
System crash	► Press the ON/OFF switch for at least 4 seconds, until the device switches off. The operating system is not shut-down properly in the process. Error messages are therefore possible the next time the system is booted.

Screen, stays blank

Cause	Troubleshooting
Monitor is switched off.	► Switch your monitor on.
Power saving has been activated (screen is blank)	► Press any key on the keyboard. or ► Deactivate the screen saver. If necessary, enter the appropriate password.
Brightness control is set to dark	► Adjust the brightness control. For detailed information, please refer to the operating manual supplied with your monitor.
Power cable not connected	► Switch off the monitor and the device. ► Check that the monitor power cable is properly connected to the monitor and to a grounded mains outlet or to the monitor socket of the device. ► Check that the device power cable is properly plugged into the device and a grounded mains outlet. ► Switch on the monitor and the device.
Monitor cable not connected	► Switch off the monitor and the device. ► Check that the monitor cable is properly connected to the device and monitor. ► Switch on the monitor and the device.
Wrong monitor has been set under Window XP	► Restart the device. ► Press **F8** while the system is booting. Either the *Windows Advanced Start Options* menu or the menu for selecting the operating system appears. ► If the menu for selecting the operating system appears, press **F8**. ► Select *Safe Mode* or *Safe Mode with Network*. ► Set the correct values for the attached monitor as described in the operating manual of the monitor by selecting *Start - Settings - Control Panel - Display* and then the *Appearance*, *Themes*, *Settings* tabs.

Cause	Troubleshooting
Wrong setting for the monitor under Windows Vista	► Restart the device. ► Press F8 while the system is booting. Either the *Windows Advanced Start Options* menu or the menu for selecting the operating system appears. ► If the menu for selecting the operating system appears, press F8 . ► Select *Safe Mode* or *Safe Mode with Network* . ► Set the correct values for the connected monitor, as described in the operating manual of the monitor, by selecting *Start - (Settings) - Control Panel - Display - Settings*.
The wrong RAM modules have been inserted	► See the technical manual for the mainboard for information on which memory modules can be used.

No mouse pointer displayed on the screen

Cause	Troubleshooting
The mouse is not correctly connected.	► Shut down the operating system properly. ► Schalten Sie das Gerät aus. ► Check that the mouse cable is properly connected to the system unit. If you use an adapter or extension lead with the mouse cable, check the connections. ► Make sure that only one mouse is connected. ► Switch the device on.
The mouse controller is not enabled.	The mouse controller must be enabled if you use a PS/2 mouse on the PS/2 mouse port. ► Check in the *BIOS Setup* that the mouse controller is *Enabled*. ► Check that the mouse driver is properly installed and is present when the application programme is started. Detailed information can be found in the user guide for the mouse and application programme.

The floppy disk cannot be read or written

Cause	Troubleshooting
The write protection of the floppy disk or the floppy disk drive is activated.	► Check that the write protection of the floppy disk or the floppy disk drive is activated (refer to the "BIOS Setup" manual and if necessary to the manual for the mainboard).
The floppy disk drive controller is not enabled.	► Check the relevant entries for floppy disk drive in the *Main* menu of the *BIOS Setup*. ► Check that the floppy disk drive controller is enabled (refer also to the manual for the mainboard or in the "BIOS Setup" manual).
The floppy disk drive is not connected.	► Check that the cables of the floppy disk drive are properly connected (see "Floppy disk drive - removing and installing").

Time and/or date is not correct

Cause	Troubleshooting
The time and date are incorrectly set.	► Set the correct time and date within the operating system you are using. or ► Set the correct time and/or date in the *BIOS Setup*.
The on-board backup battery in the device is flat.	► If the time and date are repeatedly wrong when you switch on your device, replace the lithium battery (see "Battery: lithium battery: changing".)

Error messages on the screen

Error messages and their explanation are contained:

- in the technical manual for the mainboard
- in the documentation for the programmes used

Installing new software

When installing programmes or drivers, important files may be overwritten and modified. To be able to access the original data in the event of any problems following installation, you should backup your hard disk prior to installation.

Hard disk contents, restoring

Should you need to restore your hard disk, the instructions are provided on the case of the "Recovery-CD/DVD" (delivered with your system).

Tips

Topic	Tip
Out of system resources	If you have too many applications running at once, you may experience problems due to a lack of system resources. ► Close unnecessary applications. Or ► Run the applications in a different order.
Other manuals	Additional manuals are provided as PDF files on the "User Documentation" or "Drivers & Utilities" DVD.

System upgrades

As the device has to be shut down in order to install/deinstall system hardware components, it is a good idea to print out the relevant sections of this chapter.

It may be necessary to update the BIOS when carrying out a system expansion or hardware upgrade. Additional information is contained in the "BIOS Setup" manual or possibly in the technical manual for the mainboard.

When installing components that become very hot, make sure that the maximum permissible temperature is not exceeded.

The devices are very similar to each other. Therefore, only the Celsius V is shown in the following illustrations. In case of differences, this will be pointed out at the appropriate point.

The device must be switched off when installing/removing the system expansions and may not be in the energy-saving mode.

Remove the power plug before opening the device.

This chapter describes all the activities required to modify your device hardware (e.g. installing boards or drives).

Read the supplied documentation before installing new drives and/or boards.

Refer to the technical manual for the mainboard before making any extensions to the mainboard.

Information about boards

Take care with the locking mechanisms (catches and centring pins) when you are replacing boards or components on boards.

To prevent damage to the board or the components and conductors on it, please take care when you insert or remove boards. Make sure expansion boards are inserted straight.

Never use sharp objects (screwdrivers) for leverage.

Boards with electrostatic sensitive devices (ESD) are identifiable by the label shown.

When you handle boards fitted with ESDs, you must, under all circumstances, observe the following points:

- You must always discharge static build up (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Always hold boards with ESDs by their edges.
- Never touch pins or conductors on boards fitted with ESDs.

Opening the casing

► Switch the device off. The device must not be in the energy-saving mode!

Please take note of the safety information in the "Important notes" chapter.

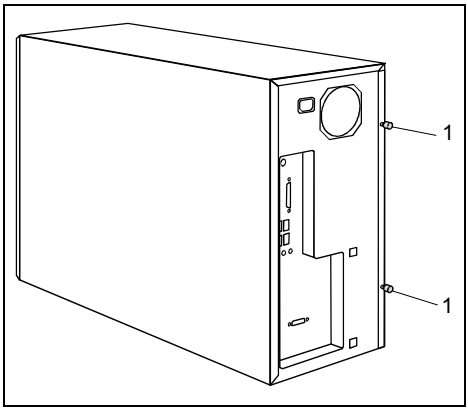
Pull the power plug out of the mains outlet.

Only insert the power plug after you have closed the casing.

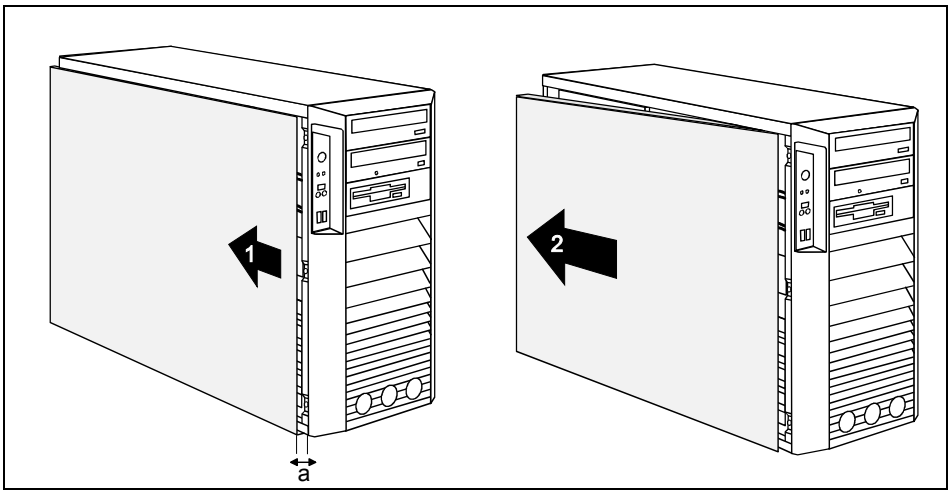
► Remove any connected cables in the unit that obstruct you.

► Place the device in a convenient working position.

Variant A (version with knurled screws)



► Unscrew the two knurled screws (1) on the back of the casing.

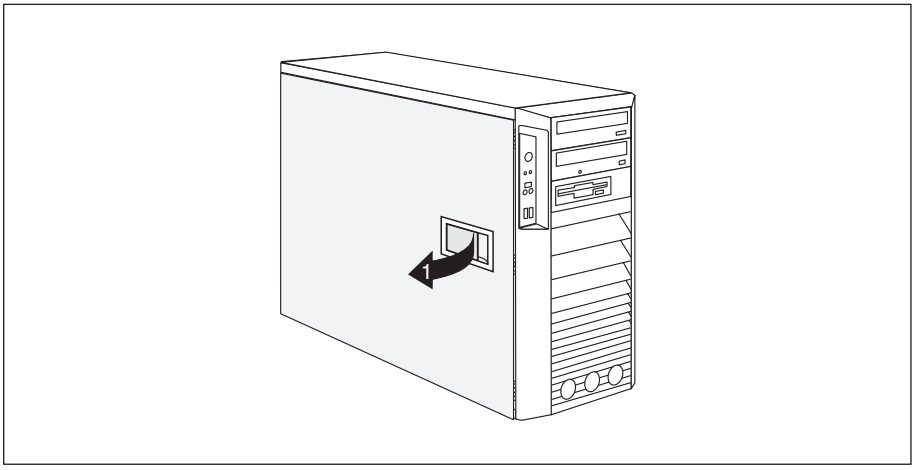


► Slide the side cover approximately 2 cm (a) in the direction of the arrow (1), until the stop.

► Pull the side cover in the direction of the arrow (2) of the casing.

Variant B (version with a locking lever)

► Unscrew the locking bolt for the side cover on the rear panel of the casing.

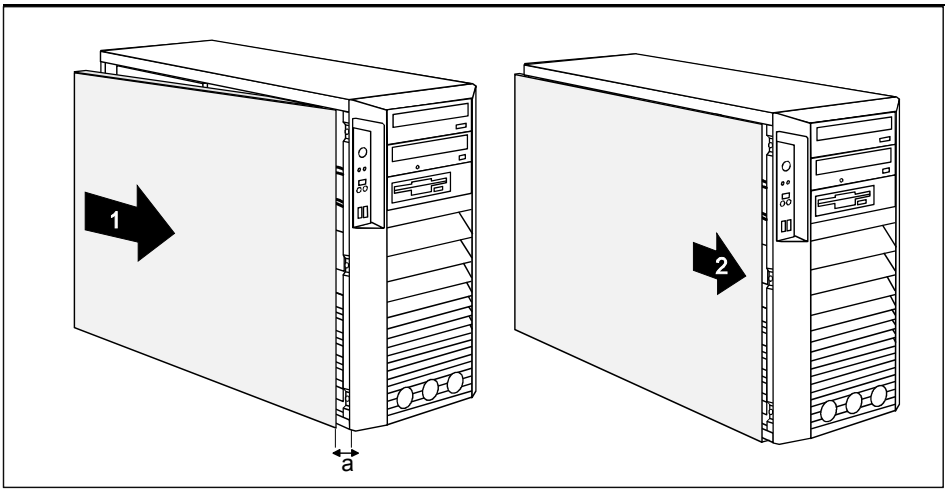


► Pull the locking lever (1).

The side panel is now free and can be detached.

Closing the casing

Variant A (version with knurled screws)

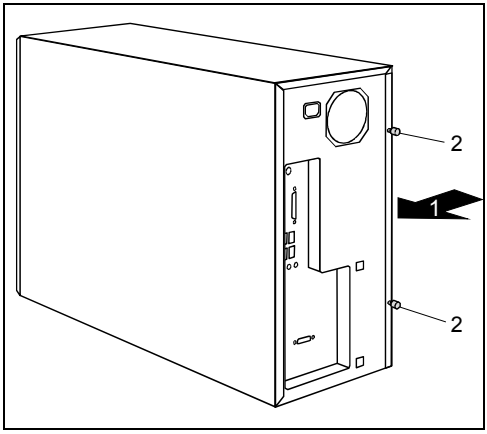


► Hook the side cover into the upper and lower guide rail of the casing in the direction of the arrow (1).

Make sure that the side cover is offset by approximately 2 cm (a).

► Press the side cover onto the casing.

► Push the side cover as far as it will go in the direction of the arrow (2).

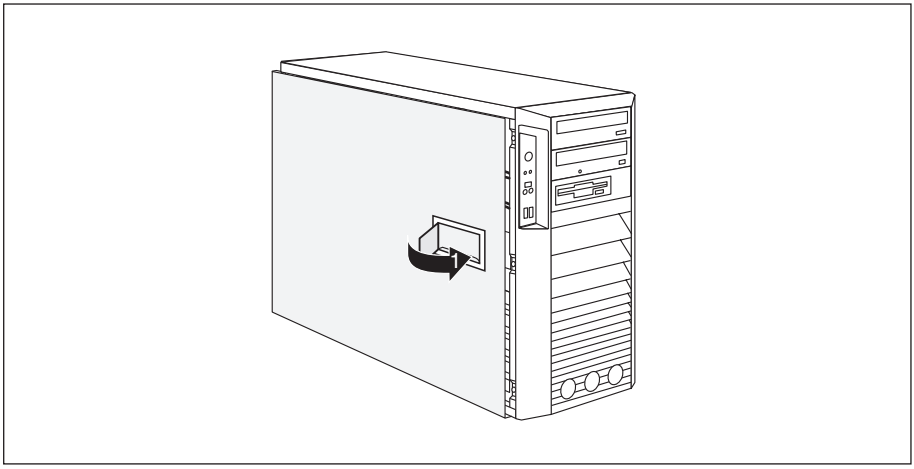


► Press the side cover onto the casing (1) at the rear and tighten the two knurled screws (2) with the other hand.

► Return the system unit to its original position.

► Reconnect any disconnected cables (power cord, cables to external devices, etc.).

Variant B (version with a locking lever)



► Hook the side panel into the cutouts in the upper and lower guide rails.

► Close the locking lever in the direction of the arrow (1).

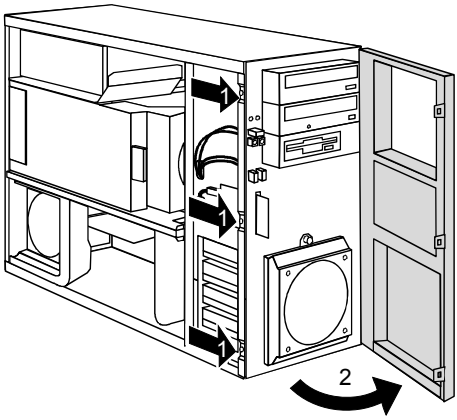
► Tighten the locking bolt for the side cover on the rear panel of the casing.

► Return the system unit to its original position.

► Reconnect any disconnected cables (power cord, cables to external devices, etc.).

Opening front panel

► Open the casing (see "Opening the casing").

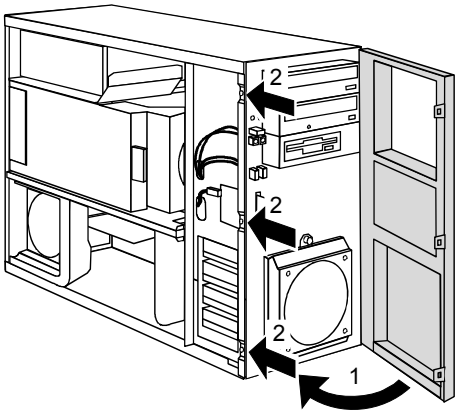


► Detach the three locking tabs on the left side of the front panel (1).

► Fold open the front in the direction of the arrow (2).

► If necessary, detach the hinge on the right-hand side of the front panel from the casing and carefully remove the front panel.

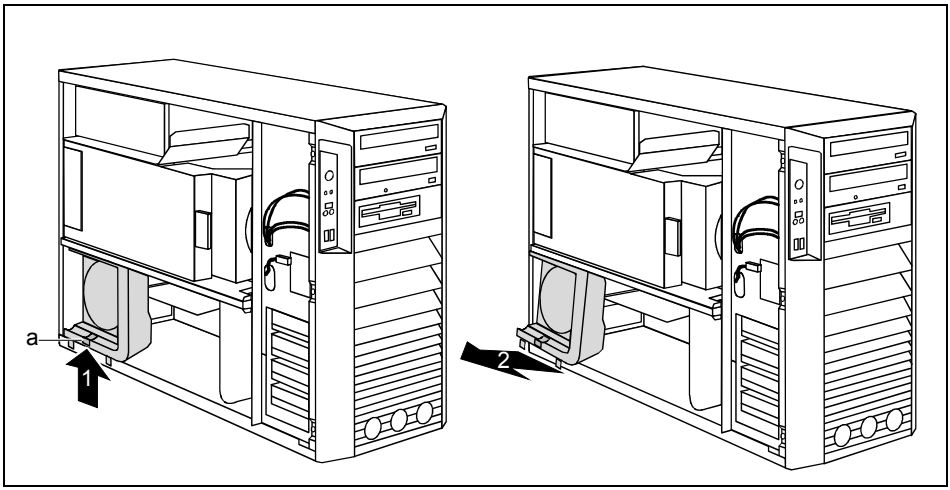
Closing front panel



- ► If necessary, hook in the hinge on the right-hand side of the front panel.
- ► Close the front panel in the direction of the arrow (1) so that the three locking tabs on the left-hand side of the front panel engage (2).
- ► Close the casing (see "Closing the casing").

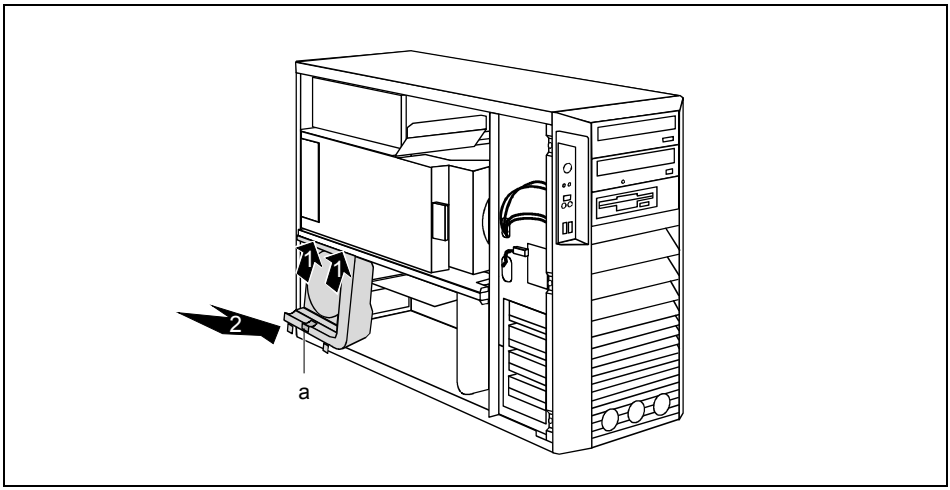
Removing the side fan

You will need to remove the side fan inside the casing in order to install boards or upgrade the main memory.



- ► Open the casing (see "Opening the casing").
- ► Release the side fan by pressing the locking hook (a) in the direction of the arrow (1).
- ► Pull the bottom edge of the side fan in the direction of the arrow (2) out of the casing.
- ► Disconnect the cable of the fan from the mainboard.
- ► Remove the side fan from the casing.

Installing the side fan

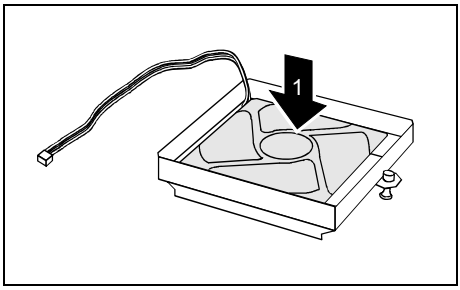


- ► Connect the fan cable to the corresponding plug contact on the mainboard (refer also to the manual of the mainboard).
- ► Position the side fan at a slight angle in the direction of the arrow (1) and hook the fan lugs into the cutouts on the cross piece.
- ► Press the side fan into the casing in the direction of the arrow (2) so that the catch (a) engages.
- ► Close the casing (see "Closing the casing").

Installing front fan (CELSIUS M)

You must install a front fan when converting the hard disks to SCSI hard disks.

Securing front fan on fan bracket



► Lay the fan on the fan bracket in the direction of the arrow (1).

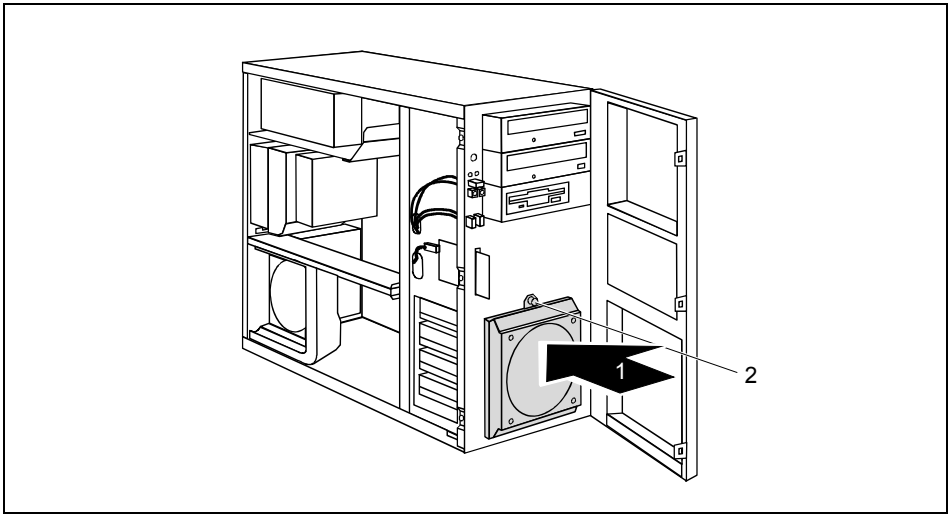
When doing so, ensure the proper rotating and air-flow direction.

► Press the fan firmly into the fan bracket until it is felt to engage.

Installing the front fan

► Open the casing (see "Opening the casing").

► Open the front panel (see "Opening front panel").



► Connect the fan cable.

► Insert the fan into the casing in the direction of the arrow (1) so that the lower edge of the fan is flush with the bottom of the device.

Make sure that the power supply cable is not pinched when doing so.

► Slightly pull back the green expansion rivet (2) until the tip of the expansion rivet is no longer spread.

► Press the green expansion rivet (2) into the hole on the casing.

► Secure the fan by pressing the green expansion rivet (2) into the casing until the tip of the expansion rivet is spread again.

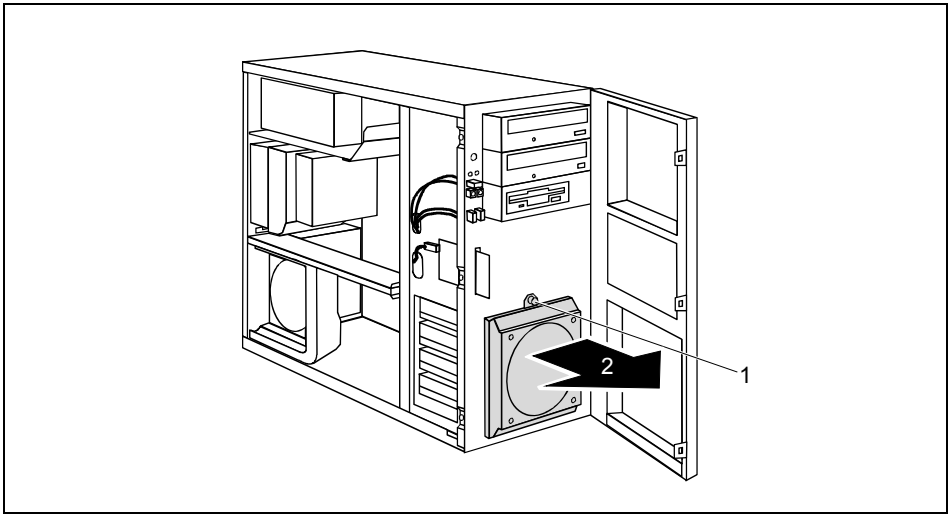
► Close the front panel (see "Closing front panel").

► Close the casing (see "Closing the casing").

Removing front fan (CELSIUS M)

► Open the casing (see "Opening the casing").

► Open the front panel (see "Opening front panel").



► Detach the green expansion rivet (1).

Make sure that the green expansion rivet (1) is not pulled off the fan.

► Tilt the fan toward the front in the direction of the arrow (2) and remove it from the casing.

► Disconnect the fan cable.

► Pull the fan cable out of the casing.

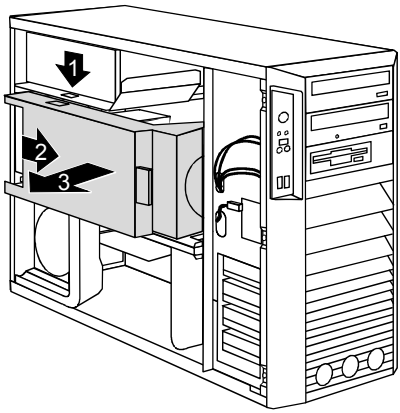
► Remove the fan.

► Close the front panel (see "Closing front panel").

► Close the casing (see "Closing the casing").

Removing ventilation duct (CELSIUS V)

Before you can upgrade the main memory or the processor, or before you can replace the processor or the lithium battery, you must remove the ventilation duct.



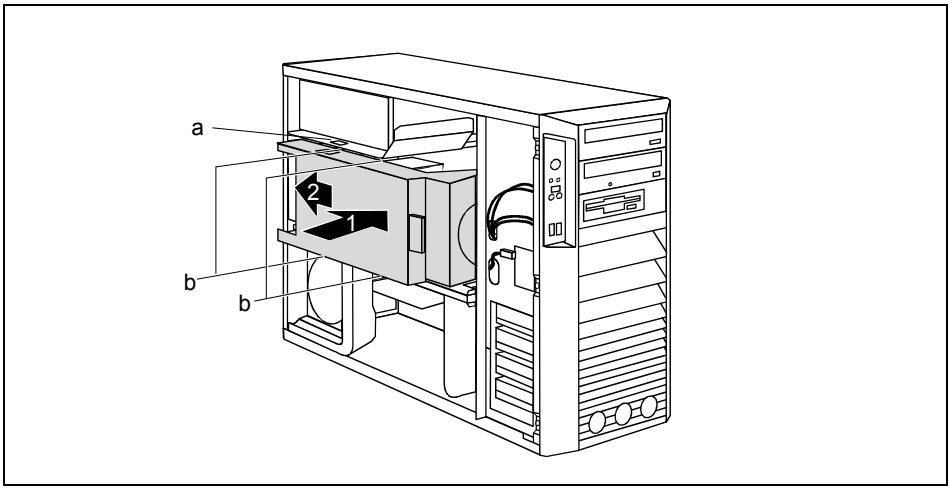
- ► Unlock the ventilation duct by pressing locking hooks in the direction of the arrow (1).
- ► Pull the ventilation duct a few millimetres in the direction of the arrow (2).
- ► Lift the ventilation duct in the direction of the arrow (3) out of the housing and disconnect the fan cables if required.

i When removing the ventilation duct, be careful not to damage the processor cooler(s) on the mainboard.

Installing ventilation duct (CELSIUS V)

When routing the fan cable, make sure that it is not kinked or pinched.

When fitting the ventilation duct, be careful not to damage the processor cooler(s) on the mainboard.

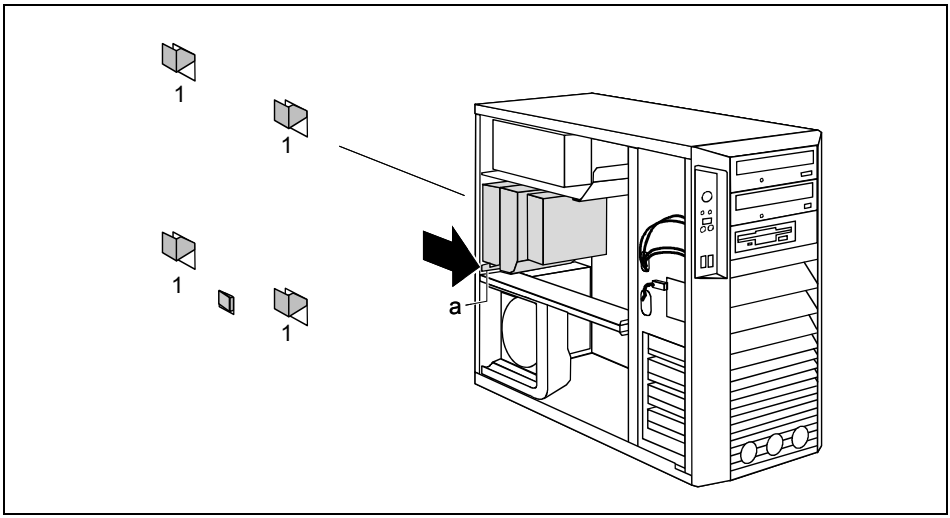


- ► Reconnect the fan cables if required.
- ► Insert the ventilation duct into the casing in the direction of the arrow (1). When doing so, the lower and upper cutouts on the ventilation duct must fit over the designated pins (b) of the cross-piece and the power supply duct.
- ► Press the ventilation duct into the casing in the direction of the arrow (2) so that the hooks (a) are felt to engage.
- ► Close the casing (see "Closing the casing").

Removing ventilation duct (CELSIUS M)

Before you can upgrade the main memory or the processor, or before you can replace the processor or the lithium battery, you must remove the ventilation duct.

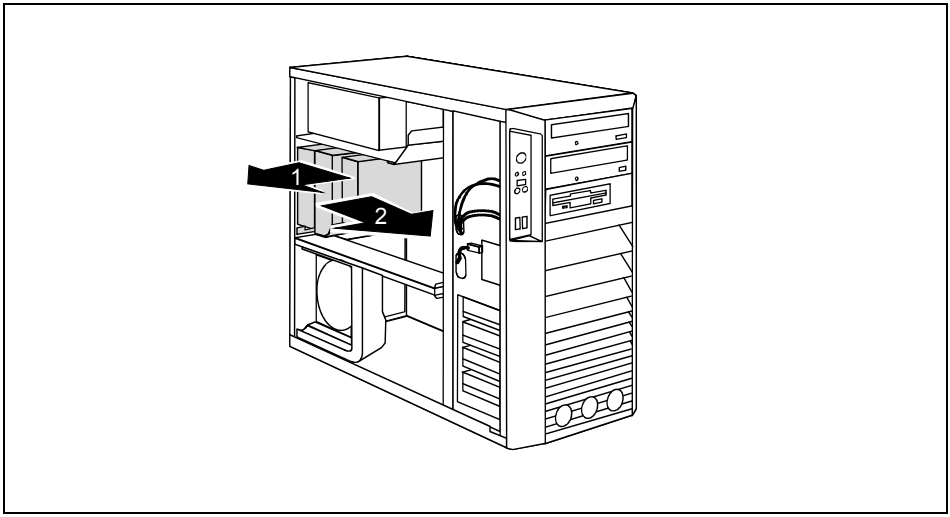
The ventilation duct is permanently connected to the fan.



► Press the lever (a) in the direction of the arrow until the lever unhooks.

The hooks (1) on the back of the casing release.

► Carefully unhook the hooks (1).



- ► Pull the ventilation duct and the fan a few millimetres in the direction of the arrow (1) to release the hooks at the back of the casing.
- ► Remove the ventilation duct and the fan from the casing in the direction of the arrow (2).
- ► Disconnect the cable of the fan from the mainboard.

i When removing the ventilation duct, be careful not to damage the processor cooler(s) on the mainboard.

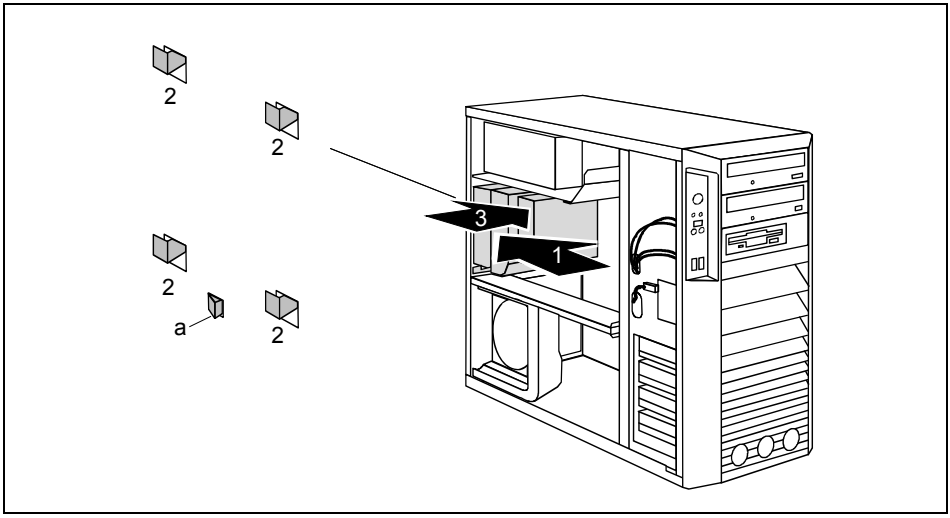
Installing ventilation duct (CELSIUS M)

► Pull the fan cable off the fan before the ventilation duct is installed in the device.

► Connect the fan cable to the corresponding plug contact on the mainboard (refer also to the manual of the mainboard).

i When routing the fan cable, make sure that it is not kinked or pinched.

When fitting the ventilation duct, be careful not to damage the processor cooler(s) on the mainboard.



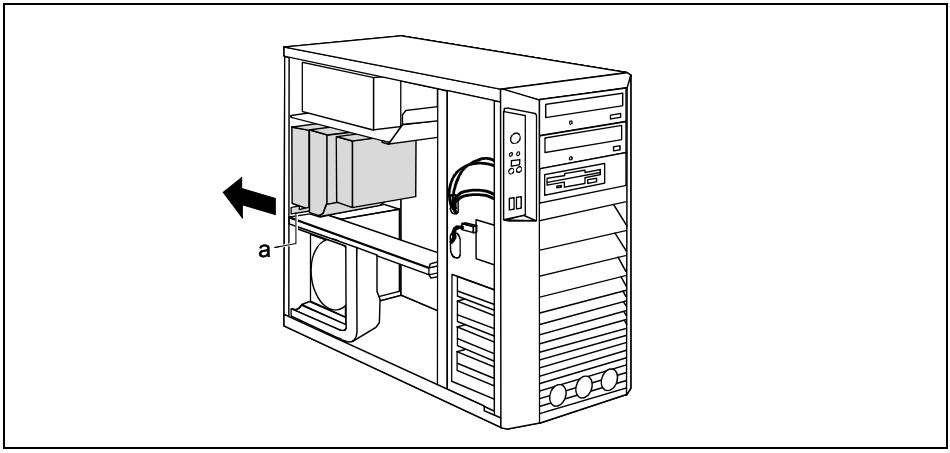
► Place the ventilation duct and the fan in the casing at a slight angle in the direction of the arrow (1). When doing so, the hooks of the ventilation duct must hook into the openings (2) in the back of the casing.

► Push bothersome cables aside if necessary.

► Press the ventilation duct and the fan into the casing in the direction of the arrow (3) until the ventilation duct engages noticeably.

The fan is properly engaged when the locking lug (a) protrudes slightly at the back of the casing.

► Connect the fan cable to the fan.

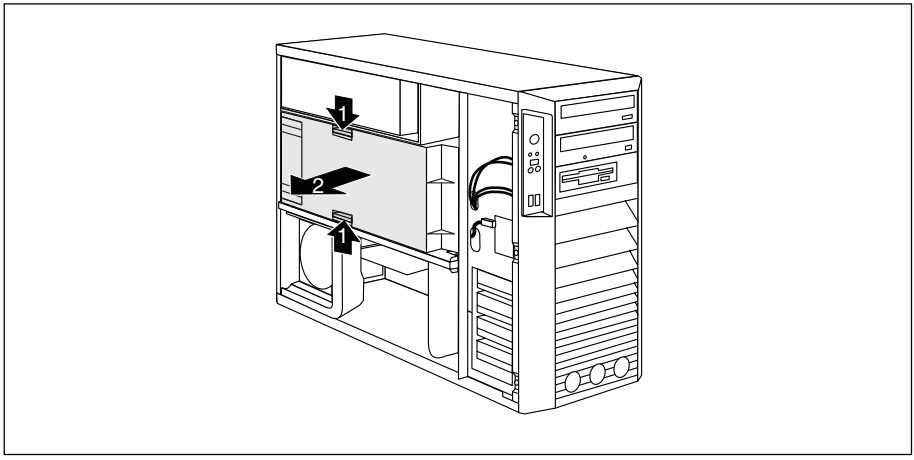


► Press the lever (a) of the ventilation duct in the direction of the arrow until the lever (a) hooks in.

► Close the casing (see "Closing the casing").

Removing the ventilation duct (CELSIUS R5xx)

Before you can upgrade the main memory or the processor, or before you can replace the processor or the lithium battery, you must remove the ventilation duct.



- ► Release the ventilation duct by pressing the locking hooks in the direction of the arrow (1).
- ► Grasp the ventilation duct by the cutouts and pull it in the direction of the arrow(2) out from the casing.

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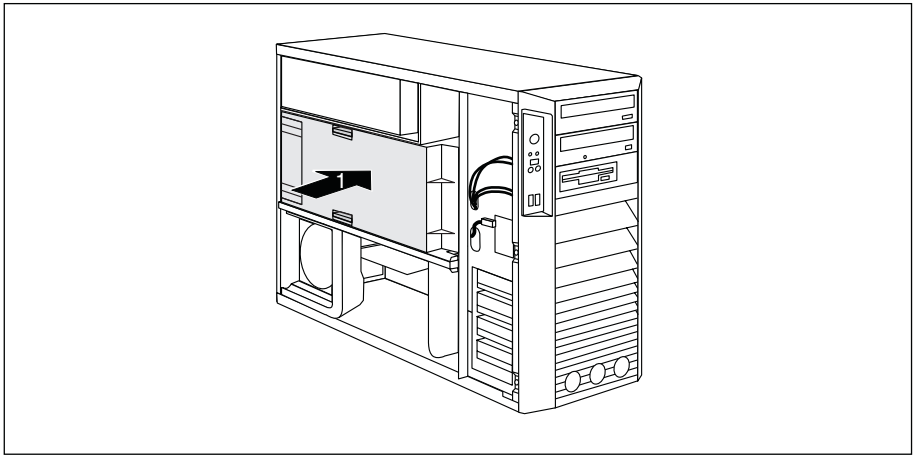
When removing the ventilation duct, be careful not to damage the processor cooler(s) on the mainboard.

If necessary disconnect the cable to the mainboard.

Installing the ventilation duct (CELSIUS R5xx)

When routing the fan cable, make sure that it is not kinked or pinched.

When fitting the ventilation duct, be careful not to damage the processor cooler(s) on the mainboard.

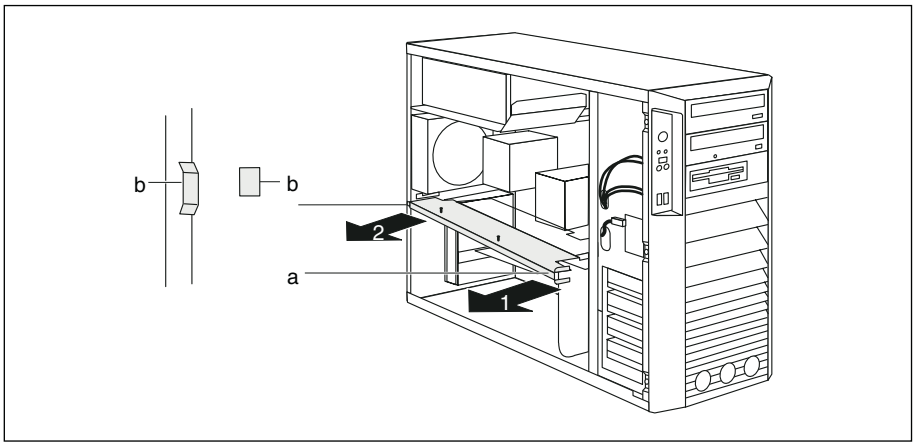


► Slide the ventilation duct in the direction of the arrow (1) into the casing until the locking hooks noticeably engage.

► Close the casing (see "Closing the casing").

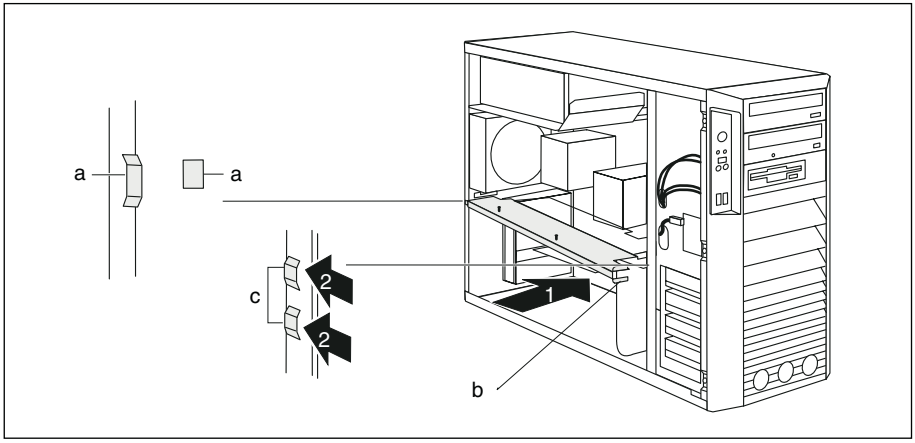
Removing the cross-piece

To upgrade the main memory or replace the processor you will need to remove the cross-piece.



- ► Remove the ventilation duct (see "Removing ventilation duct (CELSIUS V)" or "Removing the ventilation duct (CELSIUS R5xx)").
- ► Remove the side fan (see "Removing the side fan").
- ► Grasp the cross-piece by the lug (a) and unhook it from the brackets in the casing.
- ► Pull the cross-piece slightly out of the casing in the direction of the arrow (1).
- ► Detach the cross-piece from the brackets (b) on the rear of the casing.
- ► Remove the cross-piece from the casing in the direction of the arrow (2).

Installing the cross-piece



► Insert the cross-piece into its brackets (a) on the rear of the casing at a slight angle.

Make sure that the plexiglass plate of the cross-piece is not trapped between the memory slots.

► Press the cross-piece into the casing in the direction of the arrow (1) until the lugs (b) of the cross-piece hook into the brackets (c) in the casing.

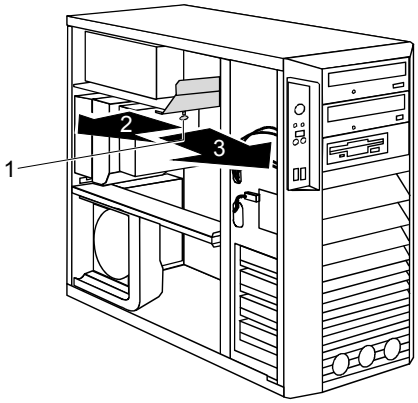
► Install the side fan (see "Installing the side fan").

► Install the ventilation duct (see "Installing ventilation duct (CELSIUS V)" or "Installing the ventilation duct (CELSIUS R5xx)").

► Close the casing (see "Closing the casing").

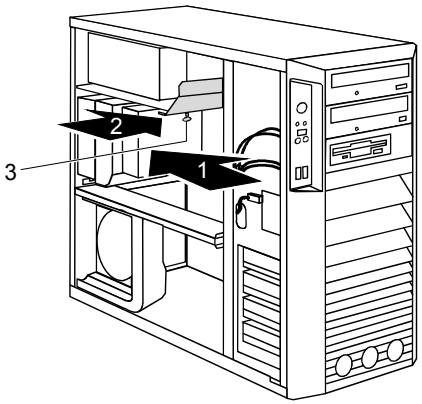
Removing cover of power supply (CELSIUS M)

On the CELSIUS M the connector P11 is located behind the cover of the power supply. When changing the hard disk equipment, you must remove the cover.



- ► Unscrew the knurled screw (1).
- ► Pull the cover a few millimetres in the direction of the arrow (2).
- ► Lift the cover out of the casing in the direction of the arrow (3).

Installing cover of power supply (CELSIUS M)



- ► Insert the cover into the casing in the direction of the arrow (1).
- ► Slide the cover in the direction of the arrow as far as it will go (2).
- ► Fasten the cover with the knurled screw (3).

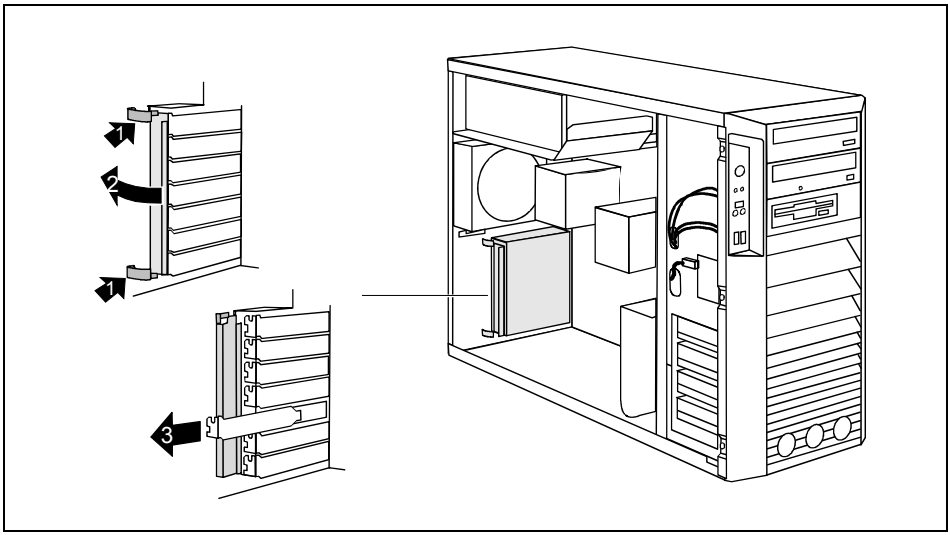
Installing and removing a board

Please take note of the section "Information about boards".

The number, position and arrangement of the board slots on the mainboard can be found in the manual for the mainboard. Boards may already be installed on shipment.

Installing a board

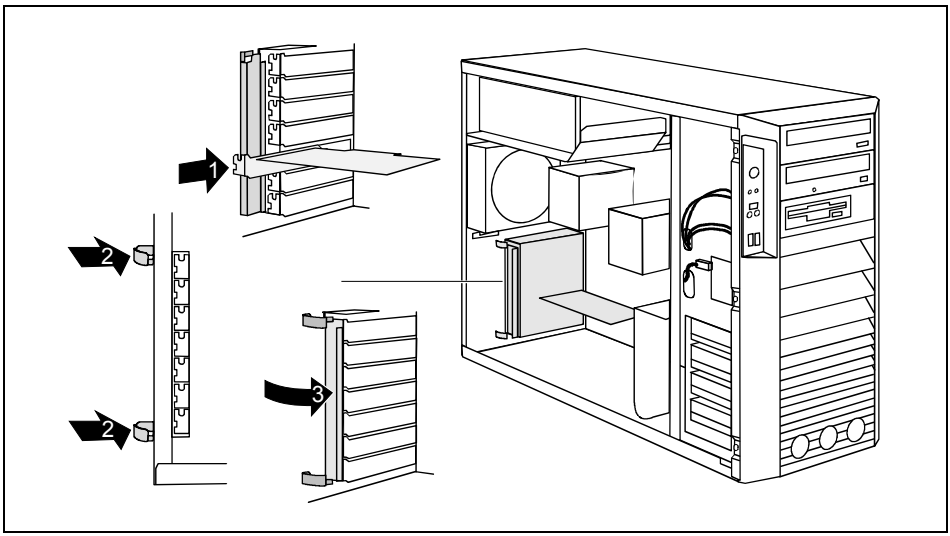
- ► Open the casing (see "Opening the casing").
- ► Remove the fan (see "Removing the side fan").
- ► Remove the cross-piece if it is in the way (see "Removing the cross-piece").



- ► Press on the clips (1) in the direction of the arrow and unhook them from the casing rear panel.
- ► Fold open the locking rail in the direction of the arrow (2).
- ► Remove the slot cover from the slot (3).

Do not dispose of the slot cover. For cooling, protection against fire and in order to comply with EMC regulations, you must refit the slot cover if you remove the board.

- ► Take the new board out of its packaging.
- ► Make the required settings for the board.



- ► Push the board up to its slot (1).
- ► Press the board into the slot so that it engages.
- ► If necessary, connect the cables.
- ► Fold the locking rail (3) closed by pressing the clips (2) through the notches on the casing rear panel from the outside until they engage.
- ► If you have removed the cross-piece, install it now (see "Installing the cross-piece").
- ► Install the fan (see "Installing the side fan").
- ► Close the casing (see "Closing the casing").

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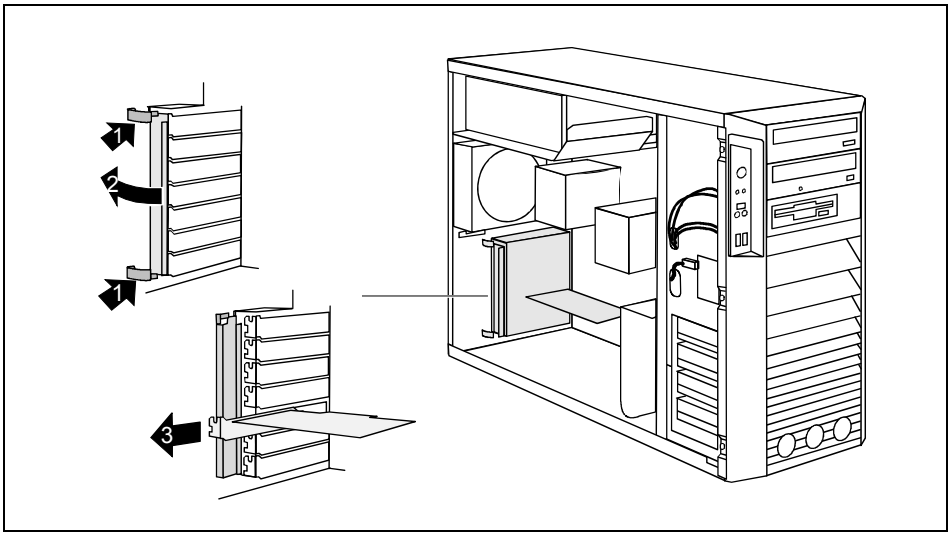
If you have installed or removed a PCI board, please check the relevant PCI slot settings in the *BIOS Setup*. If necessary, change the settings. Further information is provided in the PCI board documentation.
The slots 1, 3, 5 and 7 are suitable for low-profile cards with an adapter. The slots are counted from the bottom to the top.

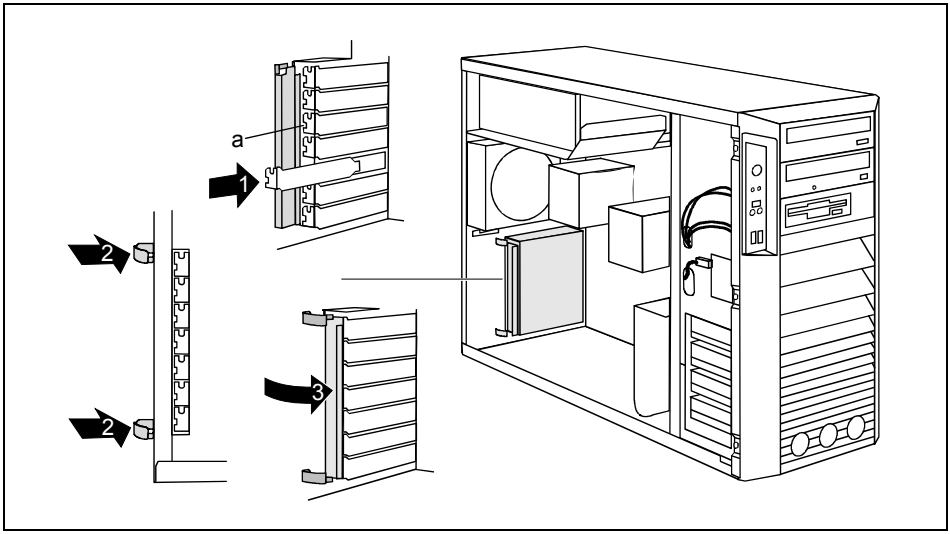
Removing a board

- ► Open the casing (see "Opening the casing").
- ► Remove the fan (see "Removing the side fan").
- ► Remove the cross-piece if it is in the way (see "Removing the cross-piece").
- ► Disconnect the cables connected to the board.



- ► Press on the clips (1) in the direction of the arrow and unhook them from the casing rear panel.
- ► If the board in question is a graphics card, undo the catch.
- ► Fold open the locking rail in the direction of the arrow (2).
- ► Pull the board out of the slot (3).
- ► Place the board into appropriate packaging.

For cooling, protection against fire, and in order to comply with EMC (electromagnetic compatibility) regulations, you must refit the slot cover.



► Push the slot cover into the slot (1).

Ensure that the projection (a) on the slot cover engages into the appropriate recess. If it does not, you will find it difficult to close the locking rail. There is a danger of damage.

► Fold the locking rail (3) closed by pressing the clips (2) through the notches on the casing rear panel from the outside until they engage.

► If you have removed the cross-piece, install it now (see "Installing the cross-piece").

► Install the fan (see "Installing the side fan").

► Close the casing (see "Closing the casing").

If you have installed or removed a PCI board, please check the relevant PCI slot settings in the *BIOS Setup*. If necessary, change the settings. Further information is provided in the PCI board documentation.

Low-profile boards

For units with a particularly low overall height, there are so-called low-profile boards with a slot cover with a lower overall height to match the low-profile units. To also install these low-profile boards in normal board slots, you must mount a corresponding slot adapter beforehand

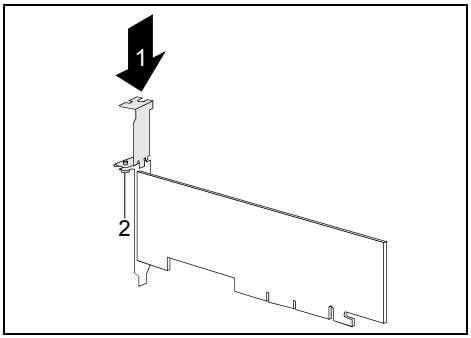
Two-piece board slot covers are fitted to the slots intended for low-profile boards. The two pieces are connected together with a screw.

► Remove the desired board slot cover and undo the screw.

► Make the required settings for the board.

Do not dispose of the slot cover. If you remove the board again, you must reinstall the slot cover (cooling, fire protection or EMC regulations to be complied with).

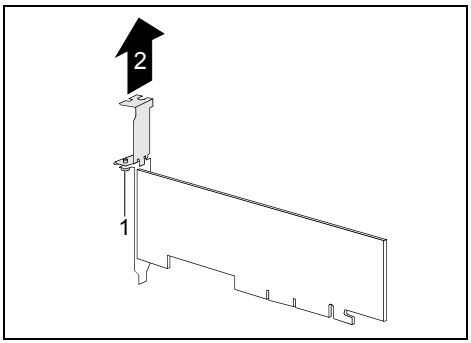
Mounting slot adapter



► Fit the slot adapter on the slot cover of the low-profile board (1) and screw it on (2).

Now you can install the low-profile board in a suitable slot like a normal board (see "Installing a board").

Removing slot adapter



► Unscrew the screw (1) and remove the slot adapter (2).

Installing and removing drives

The casing can accommodate a total of seven drives:

- three accessible drives
  (two 5¼" drives and one 3½" drive)
- four non-accessible drives
  (3½" drives)

"Accessible drives" are e.g. DVD or CD ROM drives, into which a data carrier can be inserted from outside. Non-accessible drives are e.g. hard disk drives.

Serial ATA drives and SCSI drives

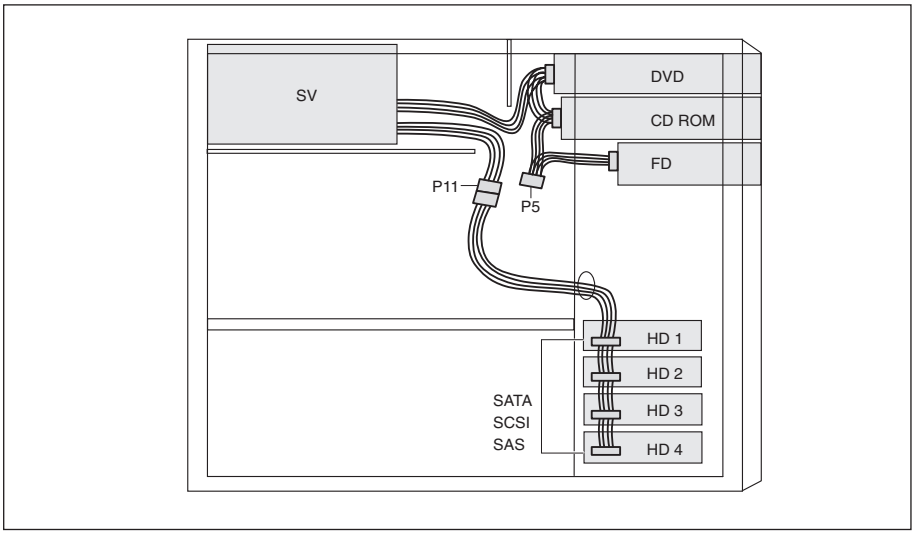
You can install S-ATA drives or SCSI drives/SAS drives (Serial Attached SCSI drives) in your device. Your device is equipped with corresponding adapter cables. S-ATA drives are supported by default (refer also to the manual for the mainboard). Mixed equipment is also possible. When simultaneously installing S-ATA hard disks and SCSI hard disks, you must ensure the proper assignment of the cables to the corresponding connectors.

i On the CELSIUS M the connector P11 is located behind the cover of the power supply. When changing the hard disk equipment, you must remove the cover (see "Removing cover of power supply (CELSIUS M)").

For CELSIUS M only:

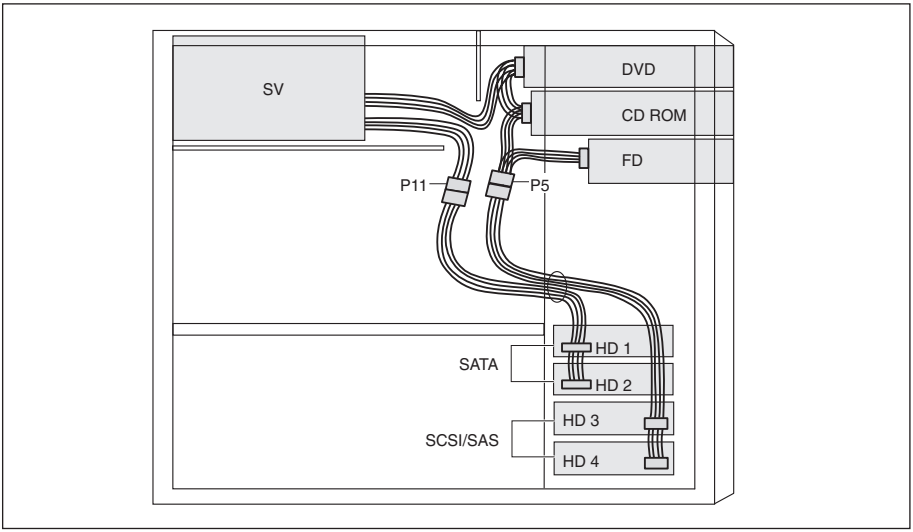
The internal wiring of your device is shown in the following wiring diagrams.

Wiring diagram for S-ATA drives, SCSI drives or SAS drives (CELSIUS M)



If you only install S-ATA drives, SCSI drives or SAS drives, connect the hard disk connections to the connector P11.

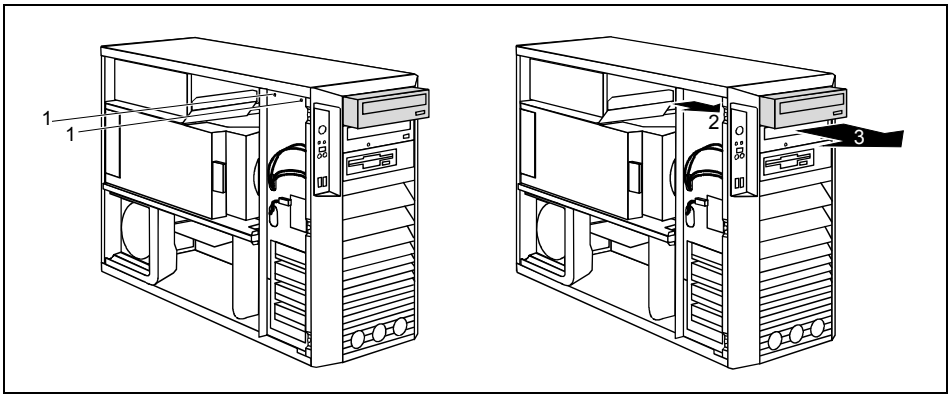
Wiring diagram for mixed equipment with S-ATA and SCSI/SAS drives (CELSIUS M)



If you install two S-ATA drives and two SCSI drives or two SAS drives, you must connect the S-ATA hard disks to the connector P11 and the SCSI/SAS hard disks to the connector P5.

Removing an accessible drive

► Open the casing (see "Opening the casing").



► Pull the data and the power supply connectors from the desired drive.

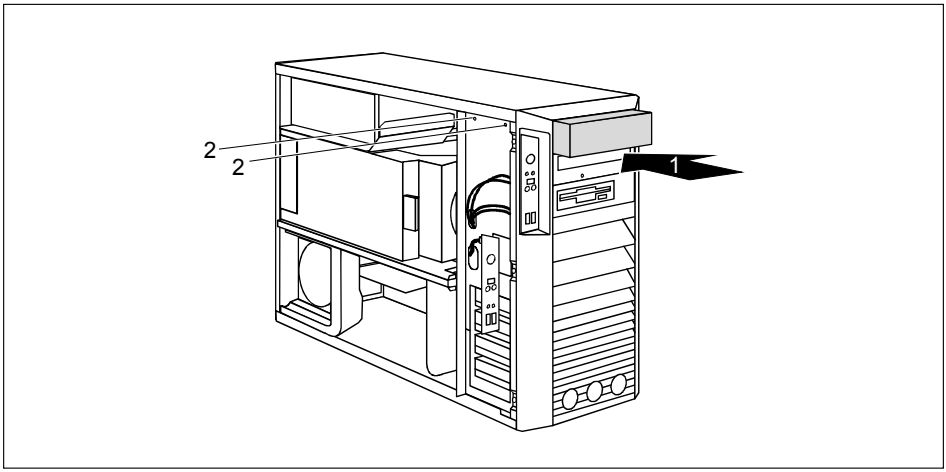
► Loosen the screws (1).

► Slide the drive out of the bay in the direction of the arrow (2) from behind.

The drive now protrudes slightly out of the casing.

► Slide the drive out of the casing (3).

► If necessary, make the required settings on the remaining hard disk drives.



- ► If you are not installing a new drive, slide the empty slide-in insert into the casing until it noticeably engages.
- ► Secure the empty slide-in module with the screws (2).
- ► Close the casing (see "Closing the casing").

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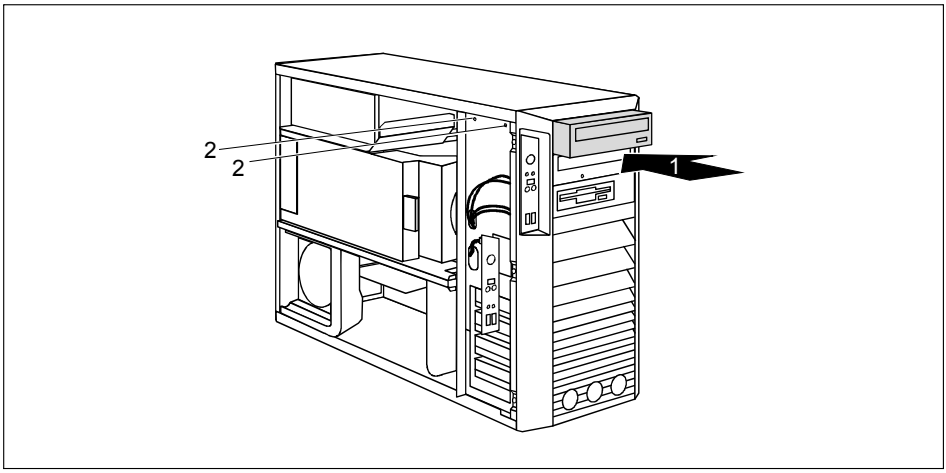
It may be necessary to modify the entry for the remaining drives in the *BIOS Setup*.

Installing an accessible drive

- ► Open the casing (see "Opening the casing").
- ► If a slide-in module is fitted, remove this first. To do this, proceed in the same way as when removing an accessible drive (see "Removing an accessible drive").

Do not dispose of the empty slide-in module. For cooling, protection against fire, and in order to comply with EMC regulations, you must refit the empty slide-in module if you remove the drive again later.

- ► Take the new drive out of its packaging.
- ► Make the desired settings on the new drive (if necessary, to the settings of drives already installed as well (Master/Slave)).



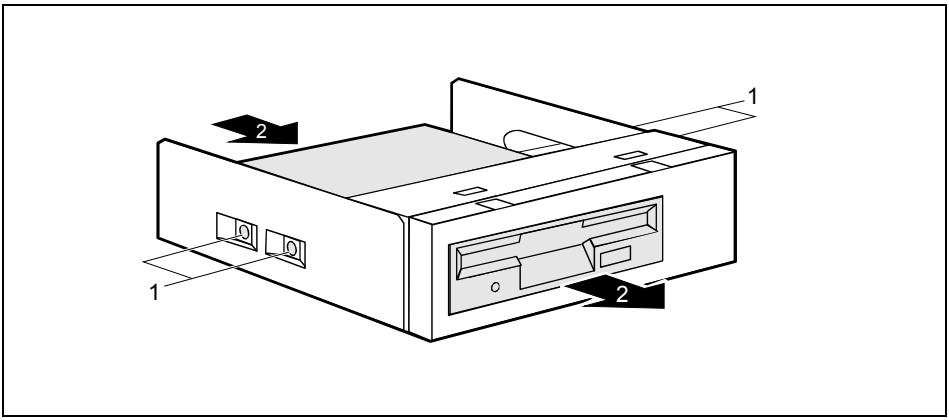
- ► Slide the accessible drive into the casing as far as the stop (1).
- ► Plug the data and the power supply connectors into the drive. Make sure the polarity is correct.
- ► Fasten the drive into place with the screws (2).
- ► Close the casing (see "Closing the casing").

It may be necessary to modify the entry for the drive in the *BIOS Setup*.

Floppy disk drive - removing and installing

Removing the floppy disk drive

► Remove the floppy disk drive (see "Removing an accessible drive").

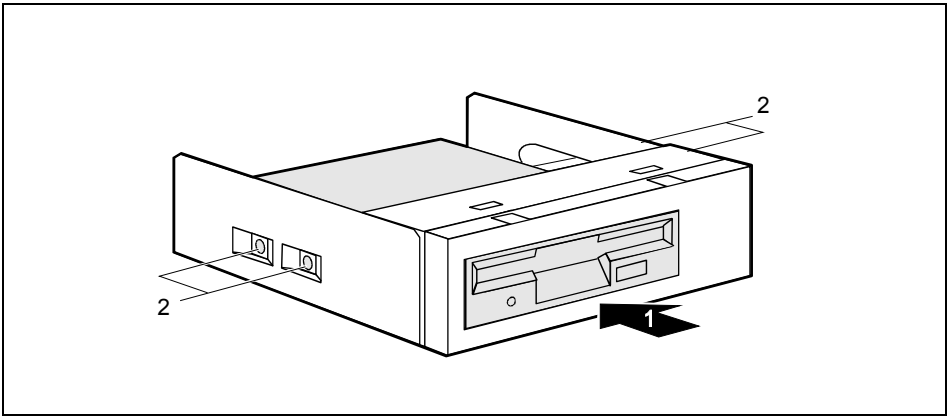


► Remove the screws (1) on both sides of the slide-in module.

► Pull the disk drive out of the slide-in module (2).

Installing the floppy disk drive

► Take the new floppy disk drive out of its packaging.



► Slide the floppy disk drive into the slide-in module (1).

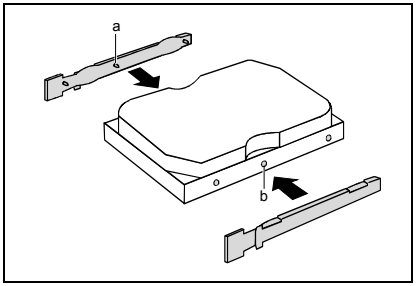
► Fasten the floppy disk drive with the screws (2) on both sides of the slide-in module.

► Install the floppy disk drive (see "Installing an accessible drive").

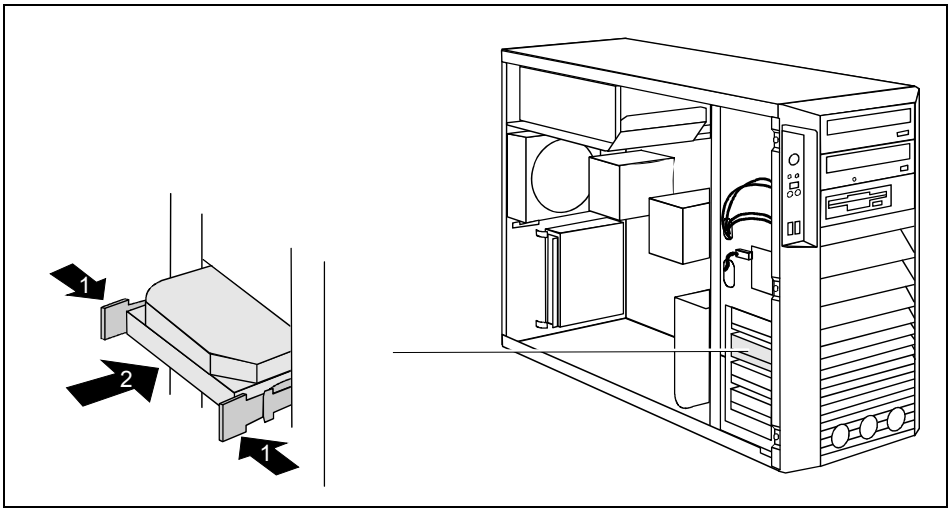
Installing and removing the hard disk drive

Installing a hard disk drive

- ► Open the casing (see "Opening the casing").
- ► Take the new hard disk drive out of its packaging.
- ► Only for SCSI drives: Make the required settings on the drive.



► Secure the EasyChange rails on the side of the hard disk by inserting the pins (a) of the EasyChange rail in the corresponding holes (b) of the hard disk.

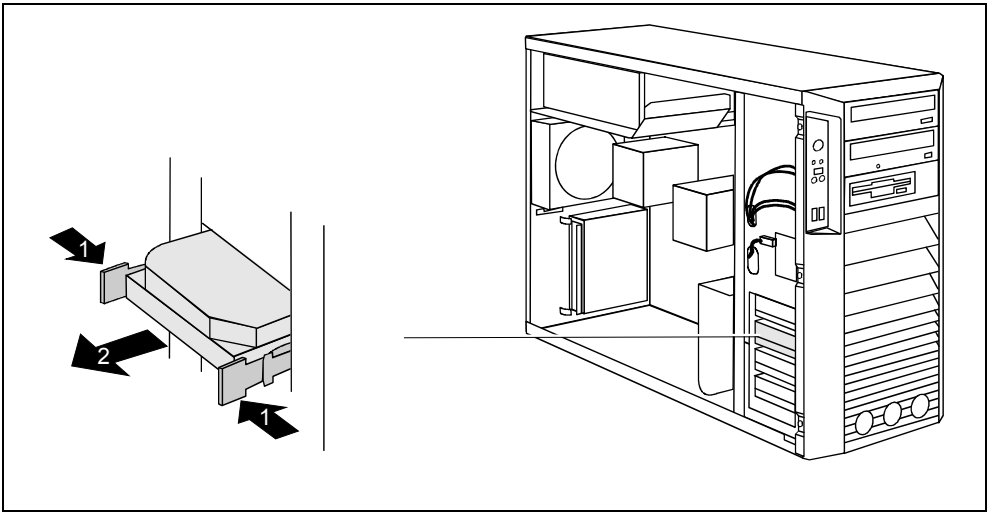


- ► Press the EasyChange rails in the direction of the arrows (1).
- ► Push the hard disk drive into the casing (2) until the EasyChange rails engage.

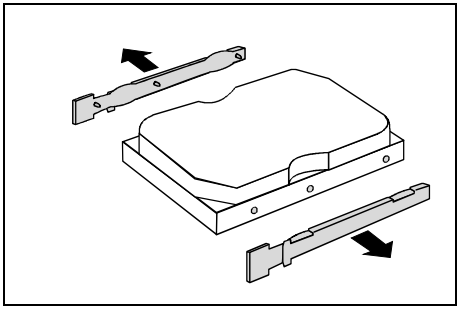
- ► CELSIUS M only: Remove the cover of the power supply (see "Removing cover of power supply (CELSIUS M) ").
- ► Connect the data and power supply cables to the hard disk drive or to the hard disk drives.
- ► CELSIUS M with SCSI hard disk only: Install the front fan (see "Installing front fan (CELSIUS M)").

Removing a hard disk drive

- ► Open the casing (see "Opening the casing").



- ► Press the EasyChange rails in the direction of the arrows (1).
- ► Pull the hard disk drive out of the carrier (2).



► Pull the EasyChange rails off the hard disk drive.

► If necessary, make the required settings on the remaining hard disk drive.

► CELSIUS M only: Install the front fan if necessary (see "Installing front fan (CELSIUS M)").

► Close the casing (see "Closing the casing").

i

It may be necessary to modify the entry for the drive in the *BIOS Setup*.

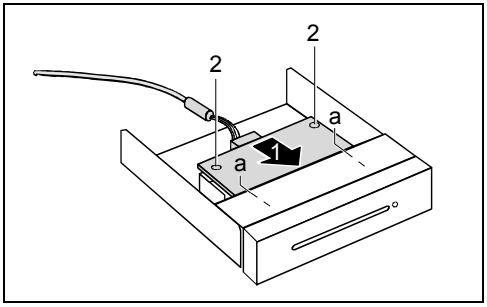
Installing/removing a SmartCard reader (optional)

You can also install a SmartCard reader in the bay of the floppy disk drive in place of the drive.

i You can install either a WLAN module or a SmartCard reader in your device.

SmartCard reader, installing

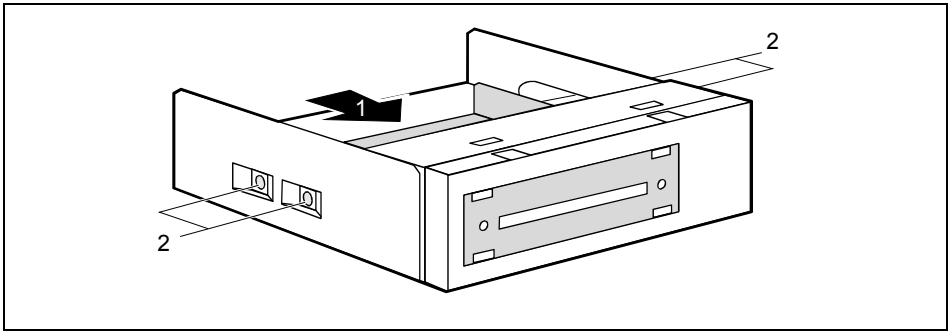
Screwing SmartCard reader onto carrier



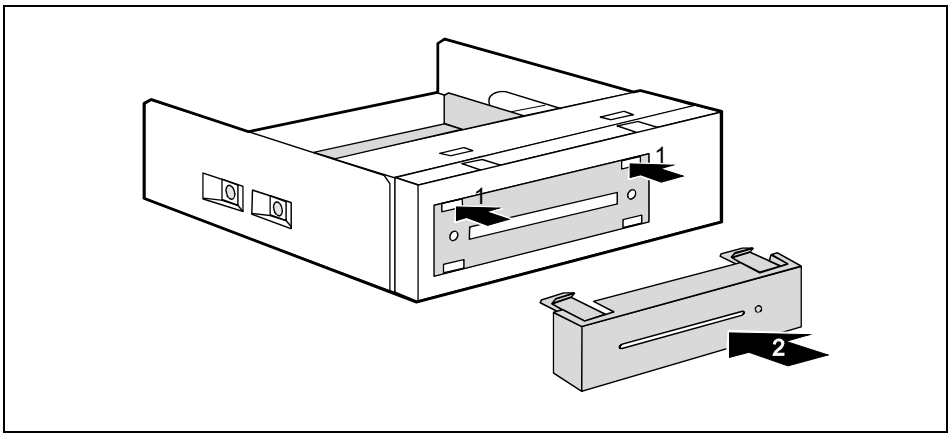
- ► Push the SmartCard reader - with the component side facing downwards - in the direction of the arrow (1) into the guide (a).
- ► Fasten the SmartCard reader with the screws (2).

SmartCard reader, installing

- ► Open the casing (see "Opening the casing").
- ► If necessary, open the front panel (see "Opening front panel").
- ► Remove the floppy disk drive (see "Removing the floppy disk drive").



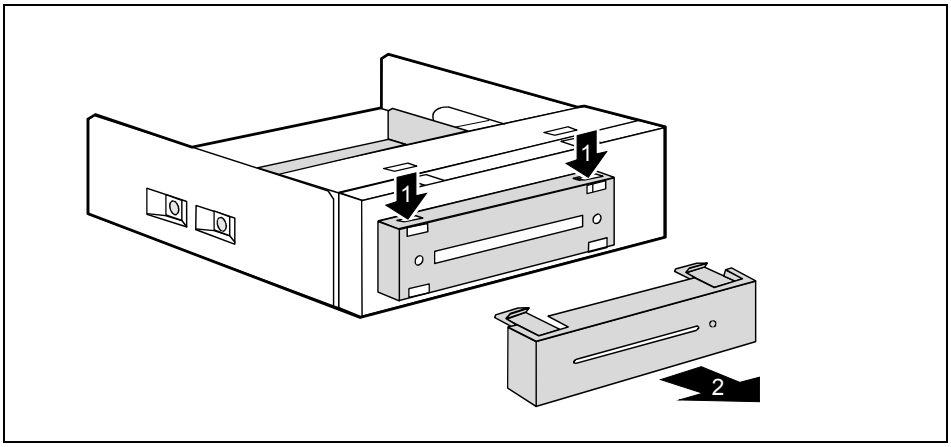
- ► Slide the SmartCard reader into the slide-in module (1).
- ► Fasten the SmartCard reader with the screws (2) on both sides of the slide-in module.



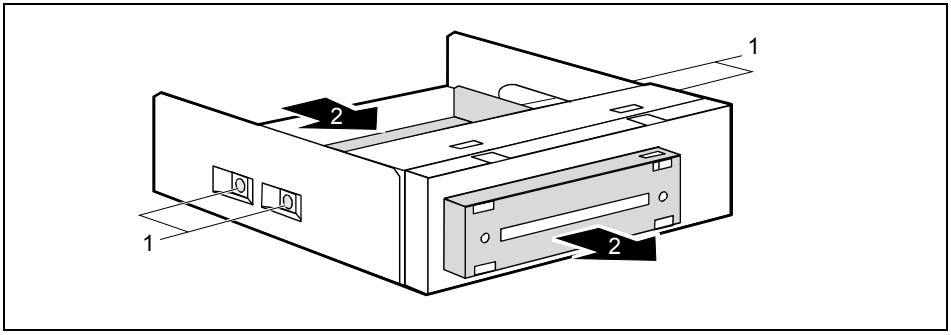
- ► Hook the cover into the openings (1).
- ► Press the cover in the direction of the arrow (2) until the clips engage.
- ► Install the insert with the SmartCard reader (see "Installing an accessible drive").

Removing a SmartCard reader

► Remove the insert with the SmartCard reader (see "Removing an accessible drive").

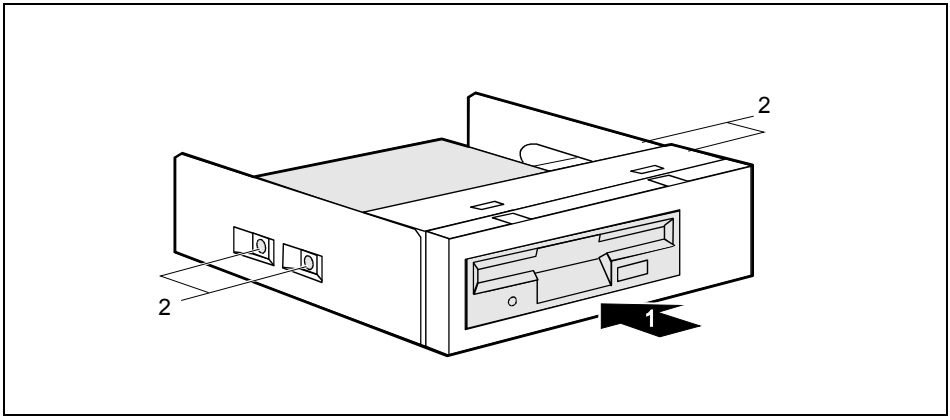


► Detach the locking mechanisms (1) and remove the bezel (2).



► Remove the screws on both sides of the slide-in module (1).

► Pull the SmartCard reader out of the slide-in module (2).



► Install the floppy disk drive again (see "Installing the floppy disk drive").

Installing and removing a WLAN module (optional)

i You can install either a WLAN module or a SmartCard reader in your device.

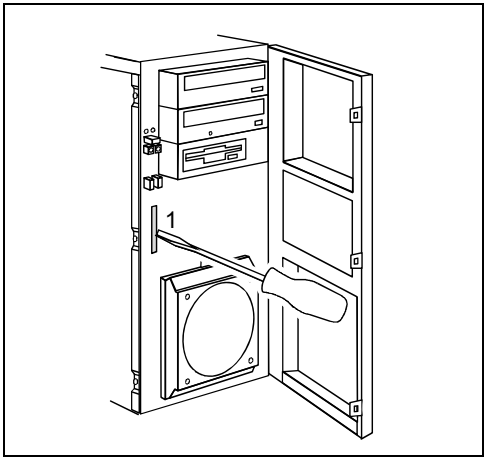
Installing WLAN module

► Open the casing (see "Opening the casing").

► Open the front panel (see "Opening front panel").

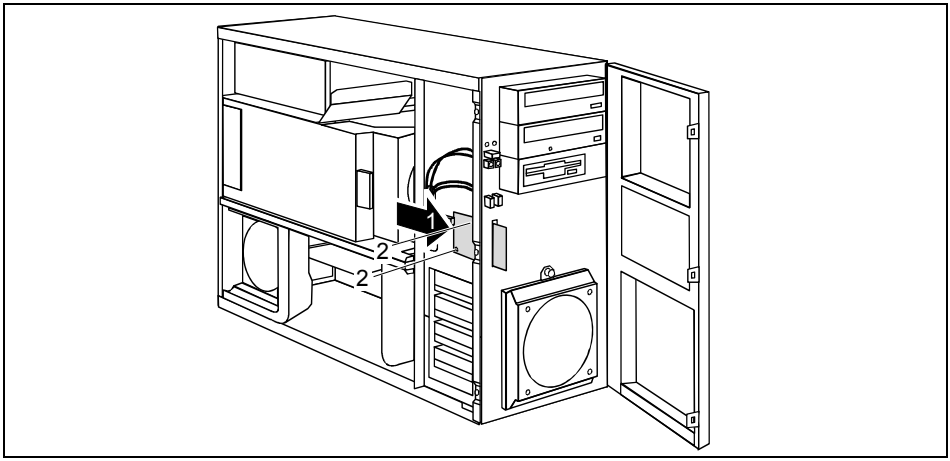
Initial installation of a WLAN module

The slot on the WLAN module inside of the front panel is protected by a metal cover when the device is shipped.



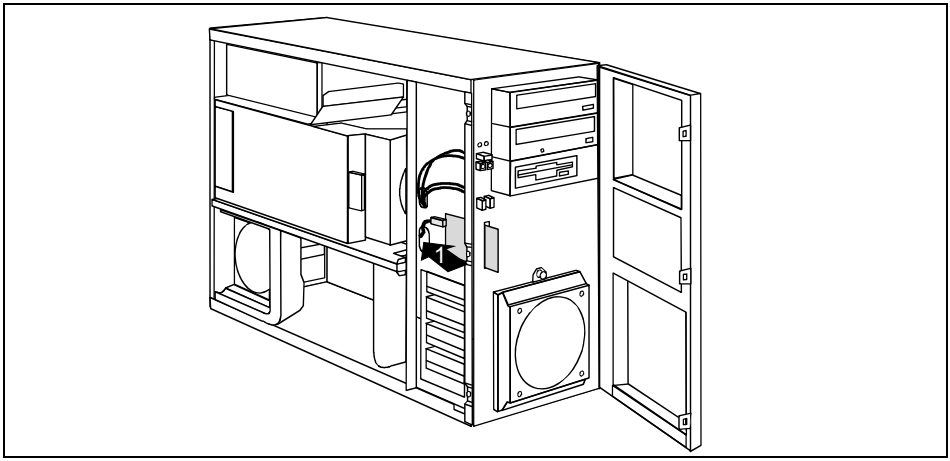
► Break the pre-stamped metal cover (1) out of the WLAN opening with a screwdriver.

Installing WLAN module



► Slide the WLAN module into the slot on the front of the casing in the direction of the arrow (1). Make sure that the screw holes for the screws are aligned.

► Fasten the WLAN module with the screws (2).



- ► Thread the USB data cable of the WLAN module through the opening in the direction of the arrow (1).
- ► Connect the USB data cable of the WLAN module onto the corresponding connector on the mainboard (also see the manual for the mainboard).
- ► Close the front panel (see "Closing front panel").
- ► Close the casing (see "Closing the casing").

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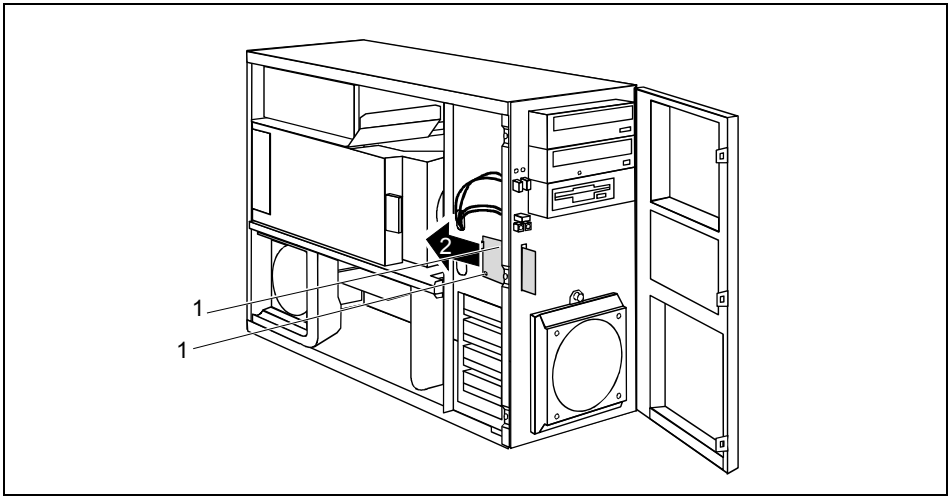
More detailed information on the use of Wireless LAN can be found in the "Wireless LAN" manual.

This manual is provided as PDF file on the "User Documentation" or "Drivers & Utilities" DVD.

Removing WLAN module

- ► Open the casing (see "Opening the casing").
- ► Open the front panel (see "Opening front panel").
- ► Detach the USB data cable of the WLAN module from the mainboard (see the manual for the mainboard).



- ► Loosen the screws (1).
- ► Pull the WLAN module out of the bay the direction of the arrow (2).
- ► Close the front panel (see "Closing front panel").
- ► Close the casing (see "Closing the casing").

Extensions to the mainboard

Details on how you can upgrade the main memory or the processor of your device are provided in the manual for the mainboard.

Main memory, upgrading

- ► Open the casing (see "Opening the casing").
- ► CELSIUS V/R only: Remove the ventilation duct (see "Removing ventilation duct (CELSIUS V)" and "Removing the ventilation duct (CELSIUS R5xx)").
- ► Upgrade the memory according to the description in the manual for the mainboard.
- ► CELSIUS V/R only: Install the ventilation duct (see "Installing ventilation duct (CELSIUS V)" and "Installing the ventilation duct (CELSIUS R5xx)").
- ► Close the casing (see "Closing the casing").

Processor, replacing

- ► Open the casing (see "Opening the casing").
- ► Remove the ventilation duct (see "Removing ventilation duct (CELSIUS M)", "Removing ventilation duct (CELSIUS V)" and "Removing the ventilation duct (CELSIUS R5xx)").
- ► Upgrade the processor according to the description in the manual for the mainboard.
- ► Install the ventilation duct (see "Installing ventilation duct (CELSIUS M)", "Installing ventilation duct (CELSIUS V)" and "Installing the ventilation duct (CELSIUS R5xx)").
- ► Close the casing (see "Closing the casing").

Battery: lithium battery: changing

In order to permanently save the system information, a lithium battery is installed to provide the CMOS-memory with a current. A corresponding error message notifies the user when the charge is too low or the battery is empty. The lithium battery must then be replaced.

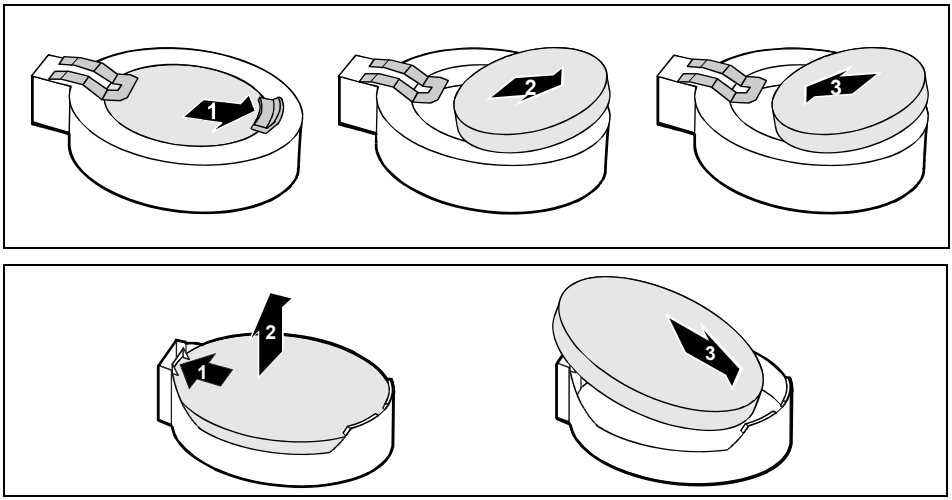
Incorrect replacement of the lithium battery may lead to a risk of explosion!

The lithium battery may be replaced only with an identical battery or with a type recommended by the manufacturer.

Do not throw lithium batteries into the household waste. They must be disposed of in accordance with local regulations concerning special waste.

Make sure that you observe the correct polarity when replacing the lithium battery. The plus pole must be on the top!

The lithium battery holder exists in different designs that function in the same way.



► Press the catch in the direction of the arrow (1).

The battery jumps out of the holder slightly.

► Remove the battery (2).

► Push the new lithium battery of the identical type into the holder and press it downward until it engages.

Technical data

Electrical data	
Regulations complied with:	EN 60950 UL 60950 CSA 22.2 No.950
Protection class:	I
Rated voltage range:	100 V - 240 V
Rated frequency:	50 Hz - 60 Hz
Max. rated current (CELSIUS M):	100 V – 127 V : 6 A 200 V – 240 V : 3 A
Max. rated current (CELSIUS V8XX):	100 V – 127 V : 9 A 200 V – 240 V : 4.5 A
Max. rated current (CELSIUS R5XX):	100 V – 127 V : 7.5 A 200 V – 240 V : 4.0 A
Max. rated current (CELSIUS R6XX):	100 V – 127 V : 9 A 200 V – 240 V : 4,5 A
or:	100 V – 127 V : 12 A 200 V – 240 V : 6 A
Dimensions	
Width/Depth/Height (CELSIUS M / R5xx):	215 mm/520 mm/446 mm
Width/Depth/Height (CELSIUS V / R640):	215 mm/620 mm/446 mm
Weight	
in basic configuration (CELSIUS M / R5xx):	approx. 24 kg
in basic configuration (CELSIUS V / R640):	approx. 26 kg
Environmental conditions	
Environment class (3K2) Environment class (2K2)	EC 721 part 3-3 IEC 721 part 3-2
Temperature	
Operating (3K2)	15°C .... 35°C
Transport (2K2)	-25°C .... 60°C
Condensation in operating must be avoided.	

The data sheets of these devices contains further technical data. You will find the data sheets on the internet at *www.fujitsu-siemens.com*.

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